

Assumption Parameters for SHP Category- I (Above 100 KW to 2 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	%	7
		For remaining 28 Years	%	13	
2	Project Cost	Capital Cost /MW	Project Cost	Rs. Lacs/MW	780
3	Project Financing	Debt Equity	Tariff Period	Year	40
			Debt	%	70
		Debt Component	Equity	%	30
			Loan Amount	Rs. Lacs/MW	546
			Moratorium Period	Year	0
			Repyment Period	Year	12
			Interst Rate	%	12.875
		Equity Component	Equity Amount	Rs. Lacs/MW	234
			Return of equity for first 10 Years	%	19
			Return of equity from 11th Years onwards	%	22
4	Subsidy	Subsidy	MNRE Capital Subsidy for 1 MW	Rs. Lacs/MW	200
			90% Capital Subsidy adjusted	Rs. Lacs/MW (at 1 MW Capacity)	180
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	25
			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 -I (Above 100 KW to 2 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	Y 19	Y 20
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	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
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	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
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	4.74	4.75
Free Power	%			7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	13%	13%	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	4.12	4.13
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	Y 19	Y 20
O&M Expenses	Rs Lacs.			25.00	26.43	27.94	29.54	31.23	33.02	34.90	36.90	39.01	41.24	43.60	46.10	48.73	51.52	54.47	57.58	60.88	64.36	68.04	71.93
Depreciation	Rs Lacs.			45.47	45.47	45.47	45.47	45.47	45.47	45.47	45.47	45.47	45.47	10.57	10.57	10.57	10.57	10.57	10.57	10.57	10.57	10.57	10.57
Interest on Term loan	Rs Lacs.			55.78	38.34	32.48	26.62	20.76	14.90	9.04	3.19	0.13	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.			4.60	4.29	4.24	4.20	4.16	4.13	4.10	4.08	3.34	3.46	3.75	3.88	4.02	4.18	4.34	4.50	4.68	4.87	5.07	5.28
Return on Equity	Rs Lacs.			44.46	44.46	44.46	44.46	44.46	44.46	44.46	44.46	44.46	44.46	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48
Total Fixed Cost	Rs Lacs.			175.32	158.99	154.60	150.29	146.08	141.98	137.98	134.10	97.51	99.73	109.40	112.03	114.81	117.75	120.85	124.14	127.61	131.28	135.16	139.26

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	Y 19	Y 20	
O&M Expenses	Rs./ kWh	1.085	0.57	0.60	0.63	0.67	0.71	0.75	0.79	0.84	0.89	0.94	0.99	1.04	1.18	1.25	1.32	1.39	1.48	1.56	1.65	1.74
Depreciation	Rs./ kWh	0.690	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	0.24	0.24	0.24	0.24	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Interest on Term loan	Rs./ kWh	0.367	1.27	0.87	0.74	0.60	0.47	0.34	0.21	0.07	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	0.107	0.10	0.10	0.10	0.09	0.09	0.09	0.09	0.08	0.08	0.09	0.09	0.10	0.10	0.11	0.11	0.11	0.11	0.12	0.12	0.13
Return on Equity	Rs./ kWh	1.088	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.17	1.17	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Total Cost of Generation	Rs./ kWh	3.338	3.98	3.61	3.51	3.40	3.32	3.22	3.13	3.04	2.21	2.26	2.48	2.54	2.79	2.86	2.93	3.00	3.10	3.19	3.28	3.37

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	0.164	0.148
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Generic Levellised Tariff without Accelerated Depreciation

Rs./ kWh	3.338
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Accelerated Depreciation benefit (Levellised) as per sheet IV of Appendix -A

Rs./ kWh	0.301
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Generic Levellised Tariff considering Accelerated benefit

Rs./ kWh	3.037
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1. Generic Levellised Tariff without Accelerated Depreciation = Rs. 3.34 /kWh

2. Generic Levellised Tariff with Accelerated Depreciation= Rs. 3.04 /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 -A

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

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

GENERIC LEVELLISED TARIFF OF CATEGORY -I (Above 100 KW to 2 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 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	4.82	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	4.82	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
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	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
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	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%
Net Saleable Energy (Levellised/ Annual)	(MU)	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	4.12	4.13
Fixed Cost		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.	76.05	80.40	85.00	89.86	95.00	100.43	106.18	112.25	118.67	125.46	132.63	140.22	148.24	156.72	165.69	175.16	185.18	195.77	206.97	218.81	
Depreciation	Rs Lacs.	10.57	10.57	10.57	10.57	10.57	10.57	10.57	10.57	10.57	10.57	10.57	10.57	10.57	10.57	10.57	10.57	10.57	10.57	10.57	10.57	10.57
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
Interest on Working Capital	Rs Lacs.	5.50	5.74	5.99	6.25	6.53	6.83	7.14	7.47	7.81	8.18	8.57	8.98	9.42	9.88	10.36	10.88	11.42	11.99	12.60	13.24	
Return on Equity	Rs Lacs.	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48
Total Fixed Cost	Rs Lacs.	143.60	148.19	153.03	158.16	163.58	169.31	175.36	181.76	188.53	195.69	203.25	211.25	219.71	228.65	238.10	248.09	258.65	269.82	281.62	294.10	

Levellised Tariff Corresponding to Tariff Period

Per Unit Cost of Generation		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	1.85	1.95	2.06	2.17	2.31	2.44	2.58	2.72	2.88	3.04	3.22	3.39	3.60	3.80	4.02	4.24	4.49	4.75	5.02	5.30
Depreciation	Rs./ kWh	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
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
Interest on Working Capital	Rs./ kWh	0.13	0.14	0.15	0.15	0.16	0.17	0.17	0.18	0.19	0.20	0.21	0.22	0.23	0.24	0.25	0.26	0.28	0.29	0.31	0.32
Return on Equity	Rs./ kWh	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Total Cost of Generation	Rs./ kWh	3.48	3.60	3.71	3.83	3.97	4.11	4.26	4.40	4.58	4.75	4.93	5.11	5.33	5.55	5.78	6.00	6.28	6.55	6.83	7.12

Proportionate values for discounting at discount factor of 10.58% p.a.	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	0.02
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Generic Levellised Tariff without Accelerated Depreciation Rs./ kWh

Accelerated Depreciation benefit (Levellised) as per sheet IV of Appendix -A Rs./ kWh

Generic Levellised Tariff considering Accelerated benefit Rs./ kWh

Computation of Per Unit Benefit of Accelerated Depreciation (Above 100kW to 2 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)	32.445%																		
Capital Cost (In Lacs per MW)	780.00																		
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	20.592	41.184	41.184	41.184	41.184	41.184	41.184	41.184	41.184	41.184	41.184	41.184	41.184	41.184	41.184	41.184	41.184	22.464
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	390.00	351.00	31.20	6.24	1.25	0.25	0.05	0.01	0.00	0.00	0.00							
Net Depreciation Benefit	Rs. Lacs	369.41	309.82	-9.98	-34.94	-39.94	-40.93	-41.13	-41.17	-41.18	-41.18	-41.18	-41.18	-41.18	-41.18	-41.18	-41.18	-41.18	-22.46
Tax Benefit	Rs. Lacs	119.85	100.52	-3.24	-11.34	-12.96	-13.28	-13.35	-13.36	-13.36	-13.36	-13.36	-13.36	-13.36	-13.36	-13.36	-13.36	-13.36	-7.29
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 a 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	119.85	95.71	-2.79	-8.83	-9.12	-8.46	-7.69	-6.96	-6.29	-5.69	-5.15	-4.65	-4.21	-3.81	-3.44	-3.11	-2.81	-1.39
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	9.07	2.17	-0.06	-0.20	-0.21	-0.19	-0.17	-0.16	-0.14	-0.13	-0.12	-0.11	-0.10	-0.09	-0.08	-0.08	-0.07	-0.03
Tax Benefit Levellised (Rs. Lacs)	12.1738																		
Net Saleable Energy (Levellised) in MU	4.0425																		
Levellised Benefit Rs./kWh	0.301 (#)																		

(#) 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.

