

“Role of GRIDCO In Odisha Solar Scenario”

S. Patajoshi
Asst. Manager (PP)
GRIDCO Ltd.

Present Scenario

appropriate commission and state commission to promote Co-generation and non-conventional energy sources and has specified that the tariff regulations of the commissions are to be guided by promotion of generation of electricity from the RE sources.

Also clause 5.2.20 of the National Electricity policy dated 12th February 2005 and clause 6.4 of the National Tariff policy dated 6th January 2006 aims for optimal utilization of the Renewable sources being environment friendly and green.

OERC is one of the various state commissions to specify the Renewable Purchase Obligation (RPO) vide its order dated 30.09.2010 in case No. 59/2010 mandated for all the obligated entities i.e. the Distribution licensee(or any entity procuring power on their behalf), any other person consuming electricity generated from conventional Captive Generating Plant having capacity of 5 MW and above for his own use and/or procured from conventional generation through open access and third party sale specified as follows:

Year-wise target	Minimum quantum of purchase in percentage (in terms of energy consumption in the State in KWH)			
	Renewable		Co-generation	Total
	Solar	Non-solar		
2011-12	0.10	1.20	3.70	5.0
2012-13	0.15	1.40	3.95	5.5
2013-14	0.20	1.60	4.20	6.0
2014-15	0.25	1.80	4.45	6.5
2015-16	0.30	2.00	4.70	7.0

* GRIDCO is the largest Obligated Entity of the State

Actual Quantum Consumed by the DISCOMs during FY 2011 – 12 : 21261 MU

(Source : Pool cost of GRIDCO for FY 2011- 12)

<u>Renewable Purchase Obligation (RPO) Target during FY 2011 – 12 :</u>						
	RPO Target in %	RPO Target in MU	Commission's Approval (MU)	Actual Generation (MU)	Surplus / Shortfall	Remarks
Co-generation	3.70	787	512.46	933.84	146.84	The shortfall in Solar target for FY 2011 -12 can be carried over to FY 2012-13 with the approval of Hon'ble OERC
Non-Solar	1.20	255	300.00	272.56	17.56	
Solar	0.10	21		3.328106	(-) 17.67	
Total =	5.00	1063	812.46	1209.73		

RPO TARGET OF GRIDCO FOR FY 2012 – 13

Actual Quantum Consumed by the DISCOMs during FY 2012 – 13 : 21972 MU

(Source : Pool cost of GRIDCO for FY12- 13)

<u>Renewable Purchase Obligation (RPO) achieved during FY 2012 – 13 :</u>						
	RPO Target in %	RPO Target in MU	Commission's Approval for purchase by GRIDCO (MU)	Actual Consumption by the Discoms (MU)	Surplus / Shortfall towards RPO w.r.t to target (MU)	Remarks
Co-generation	3.95	867.89	665.76	702.696179	(-)165.19	The shortfall in RPO target of FY 2012 -13 can be carried over to FY 2013-14 with kind approval of Hon'ble OERC
Non- Solar	1.40	307.61	422	283.571927	(-) 24.04	
Solar	0.15	32.96	46	17.666170	(-) 15.29	
Total =	5.50	1208.46	1133.76	1003.93		

Quantum Approved by OERC for State Consumption during FY 2013 – 14 : 23148 MU

<u>Renewable Purchase Obligation (RPO) Target during FY 2013 – 14 :</u>						
	RPO Target by OERC in %	RPO Target by OERC in MU	OERC Approval for procurement (MU)	RPO Met (MU) (Up to July 2013)	RPO Met (%) (Up to July 2013)	Remarks
Co-generation	4.20	972.22	1102	131.05	0.57	During FY 13- 14, apart from present 28 MW, another Solar capacity of 15 MW will be available to GRIDCO from NVVN, NTPC & M/s Alex Green Energy Ltd.
Non- Solar	1.60	370.37	420	119.83	0.52	
Solar	0.20	46.3	65.76	8.27	0.036	
Total =	6.0	1388.89	1587.76	128.1		

Analysis of SPO Requirement of GRIDCO from FY 2012 – 13 to 2015 – 16 :

Financial Year	2012 - 13	2013 - 14	2014 - 15	2015 - 16
Estimated Consumption of GRIDCO (MU)	21,972	23,148	25,000	27,000
SPO in % with annual increase of 0.05 %	0.15	0.20	0.25	0.30
SPO (MU)	32.96	46.3	62.5	81
Projected Solar Capacity available (MW)	18	38 MW (RPSSGP + NVVN +NTPC)	68 MW (RPSSGP + NVVN +NTPC + OREDA State scheme) for 365 days	68 MW (RPSSGP + NVVN +NTPC + OREDA State scheme) for 365 days
Projected availability of Solar energy based on PPA executed & capacity allocated to GRIDCO (MU)	17.666170	50	105	105
Surplus/ Shortfall (MU)	(-) 15.29	3.7	42.5	24

List Of Entities With Whom GRIDCO has Signed PPA/ PSA To Fulfill its Solar Purchase Obligation

(SPO):

- PPA with 8 nos. of Solar PV projects of 1 MW each under 'Rooftop PV & Small Solar power Generation Programme' (RPSSGP) scheme on 21.08.2010 : 8 MW
- PSA with NVVN under 'New Projects Scheme', Batch-I (Bundling Scheme) under Jawaharlal Nehru National Solar Mission (JNNSM) on 12.01.2011 : 20 MW
- PPA with NTPC under Bundling Scheme from 5 MW Dadri (U.P.) & 5 MW Faridabad (Haryana) Solar PV Project on 26.04.2011 :10 MW
- PPA with M/s Alex Green Energy Ltd. for setting up of 5 MW Solar PV project at Bolangir under OREDA State Scheme, phase 1 on 26.05.2012 : 5 MW
- PPA with M/s ACME Odisha Solar Power Pvt. Ltd. for setting up of 25 MW Solar PV project at Bolangir under OREDA State Scheme, phase 2 on 06.03.2013 : 25 MW

Total = 68 MW

Availability :

- From 8 nos. of Solar PV projects of 1 MW each under **RPSSGP scheme** commissioned during FY 2011- 12
- 15 MW Solar power through NVVN under '**New Projects Scheme**' under **JNNSM** out of which 5 MW power is from M/s Aftaab Solar Pvt. Ltd. located at Sadeipalli, Bolangir bundled with equivalent quantum of thermal power from ER NTPC stations w.e.f 07.02.2012 & rest 10 MW bundled power from Rajasthan w.e.f August 2013
- 5 MW Solar power from 5 MW Dadri (U.P.) Solar PV project **under bundling methodology** developed by NTPC

Solar Projects from whom GRIDCO is to avail power in near future :

- 5 MW power through NVVN out of 20 MW under 'New Projects Scheme' (Bundling Scheme) under JNNSM during FY 2013 - 14
- 5 MW power from NTPC under Bundling Scheme from 5 MW Faridabad (Haryana) Solar PV Project during FY 2013 - 14
- 5 MW Solar power from M/s Alex Green Energy Ltd. by November 2013 under OREDA State Scheme Ph-1
- 25 MW Solar power from M/s ACME Odisha Solar Power Pvt. Ltd. by April 2014 under OREDA State Scheme, Ph-2

Apart From that :

- Discussion is in progress with OERC, OREDA & Govt. of Odisha to account On- Grid Roof top SPV power towards fulfilling SPO
- Accounting SPV power towards fulfilling SPO from Off- Grid Roof top SPV projects from individual houses, Offices, institutions etc.
- According approval to the Solar developers under REC mechanism to procure conventional component of electricity as per CERC Regulation
- GRIDCO is taking all out effort for more Solar capacity addition in the State for future SPO Requirements