ROUND TABLE CONFERENCE ON SOLAR POLICY FOR MAHARASHTRA

ORGANISED BY BCCI – UPK
13 MAY 2014

REGULATORY DISCIPLINE AND STATE POLICY

SUDHIR KARKHANIS
Urja Prabodhan Kendra
ISSUES NEED TO BE ADDRESSED

ISSUES

ISSUE CLOUD

ATTACK THE ISSUES

YES,

SOLAR ENERGY SECTOR NEEDS TO GROW. THERE ARE ISSUES. THESE NEED TO BE RESOLVED.
EACH TYPES OF ISSUES NEED DIFFERENT TOOLS

REGULATORY ISSUES

TECHNICAL ISSUES

COMMERCIAL ISSUES

SOP
ROP
CHEAP FUNDS
CHEAP LAND
TAX- HOLIDAY
RELIABLE-HARDWARE

TOOL BOX
INJECTION OF SOLAR POWER INTO THE INTRA STATE GRID AT TRANSMISSION LEVEL, SUB-TRANSMISSION LEVEL, DISTRIBUTION LEVEL

SUSTAINABLE PROGRESS THROUGH REGULATORY DISCIPLINE
**MAJOR REGULATORY ISSUES WHICH NEED TO BE RE-VISITED THROUGH REGULATORY INTERVENTION TO ENSURE REGULATORY DISCIPLINE**

**ISSUE-1 (RPO / SPO)**
WHAT SHOULD BE THE COMMITMENT OF STATE DISCOMS, CPPS,........ TO PURCHASE SOLAR POWER

WHAT SHOULD BE THE COMMITMENT OF SOLAR POWER PRODUCERS TO SUPPLY THE POWER

**ISSUE -2 (BILLING, BALANCING & SETTLEMENT)**
HOW SHOULD THE MEASUREMENT OF SUPPLY AND DEVIATIONS BE CARRIED OUT

HOW SHOULD THE DEVIATIONS FROM COMMITTMENT BE ADDRESSED

**ISSUE – 3 (OPERATIONAL CODES AND PROCEDURES)**
WHO SHOULD BE IN CHARGE OF OPERATIONAL CODES AND PROCEDURES

**HOW OTHER STATES HAVE DEALT WITH THESE ISSUES ??? SHOULD WE JUST FOLLOW STEPS TAKEN BY THEM ??**
A WIN - WIN SITUATION FOR ALL STAKEHOLDERS

THE ELECTRICITY ACT 2003
OTHER RELEVANT ACTS OF PARLIAMENT

CENTRAL GOVERNMENT POLICIES (IN ALIGNMENT WITH THE ACTS)
STATE GOVERNMENT POLICIES (IN ALIGNMENT WITH THE ACTS)

RELEVANT RULES, REGULATIONS
APTEL JUDGMENTS, SC JUDGMENTS, CASE LAWS

A DISCIPLINED REGULATORY ENVIRONMENT
Section 86
(1) The State Commission shall discharge the following functions, namely:

(e) promote co-generation and generation of electricity from Renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licence;
The National Tariff Policy (NTP) 2006 (with subsequent amendments) requires, the Regulatory Commissions to

a) fix a minimum percentage of Renewable Purchase Obligation (RPO).

b) create a mechanism for promoting renewable energy and timeframe for implementation, etc.

c) (As per Policy amended in January 2011) to increase solar-specific RPO from a minimum of 0.25 % in 2012 to 3 % by 2022.

d) (As per the National Action Plan on Climate Change (NAPCC)): Increase the share of Renewable energy in the total energy mix at-least up to 15 percent by 2020.
**MAHARASHTRA ELECTRICITY REGULATORY COMMISSION (RENEWABLE PURCHASE OBLIGATION, ITS COMPLIANCE AND IMPLEMENTATION OF REC FRAMEWORK) REGULATIONS, 2010**

<table>
<thead>
<tr>
<th>Year</th>
<th>Minimum Quantum of purchase (in %) from renewable energy sources (in terms of energy equivalent in kWh)</th>
<th>Solar</th>
<th>Non-Solar (other RE)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>0.25%</td>
<td>0.25%</td>
<td>5.75%</td>
<td>6.0%</td>
</tr>
<tr>
<td>2011-12</td>
<td>0.25%</td>
<td>0.25%</td>
<td>6.75%</td>
<td>7.0%</td>
</tr>
<tr>
<td>2012-13</td>
<td>0.25%</td>
<td>0.25%</td>
<td>7.75%</td>
<td>8.0%</td>
</tr>
<tr>
<td>2013-14</td>
<td>0.50%</td>
<td>0.50%</td>
<td>8.50%</td>
<td>9.0%</td>
</tr>
<tr>
<td>2014-15</td>
<td>0.50%</td>
<td>0.50%</td>
<td>8.50%</td>
<td>9.0%</td>
</tr>
<tr>
<td>2015-16</td>
<td>0.50%</td>
<td>0.50%</td>
<td>8.50%</td>
<td>9.0%</td>
</tr>
</tbody>
</table>

**APPLICABLE TO DISTRIBUTION LICENSEES, CAPTIVE USERS (>1 MW), OA CONSUMERS (> 1MW)**

The Distribution Licensee(s) are also mandated to procure 0.1% per year of their Non-Solar (other RE) RPO obligation for the period from FY 2010-11 to FY 2012-13 and up to 0.2% for the period from FY 2013-14 to FY 2015-16 by way of purchase from Mini Hydro or Micro Hydro power project.
RECENT SIGNIFICANT ORDERS OF MERC
Verification of compliance of RPO Targets cummulatively for FY 10-11, FY 11-12 and FY12-13

Case 180 of 2013 12 March 2014 MSEDCL
Case 181 of 2013 06 March 2014 BEST
Case 182 of 2013 06 March 2014 TPC-D
Case 183 of 2013 06 March 2014 R Infra

In case of MSEDCL, TPC-D and BEST, the Commission has found that there was shortfall in cumulative Solar RPO compliance and the Commission has directed that the same be cumulatively fulfilled by FY 2015-16....

In case of R Infra, the Commission observed that RInfra-D has fulfilled its cumulative Solar RPO target with surplus of 2.13 MUs

Much healthier regulatory environment needs to be created quickly through Supportive State Policies, supplemented by Regulatory Discipline
UPK SCRUTINISED STATE POLICIES REGARDING RENEWABLE ENERGY / SOLAR ENERGY

- **Uttarakhand**: Policy for harnessing Renewable energy sources in Uttarakhand with private sector/community participation:
- **Punjab**: New and Renewable Sources of Energy (NRSE) Policy-2012
- **Jharkhand**: Jharkhand Energy Policy 2012 Resolution No. 2481 dated 12-09-2012
- **Chhatisgarh**: Chhatisgarh State Solar Energy Policy 2012-17
- **Uttar Pradesh**: The Uttar Pradesh Solar Power Policy 2012 (Draft)
- **Tamilnadu**: Tamilnadu Solar Energy Policy 2012
- **Andhra Pradesh**: Andhra Pradesh Solar Power Policy – 2012
- **Rajasthan**: Rajasthan Solar Policy 2011
- **Karnataka**: Karnataka Solar Policy 2011-16

Note: The States indicated with * mark have specifically mentioned “Solar Rooftop” in their policies/documents.
Tamilnadu Lesson: (Good Lesson)  [excerpt from Regulatory Order]

1.3 The objectives of the “Tamil Nadu Solar Energy Policy 2012” launched by The Government of Tamil Nadu on 20.10.2012. Policy are

• To achieve energy security
• To reduce carbon emissions
• To project Tamil Nadu as a Solar hub
• To generate 3000MW of Solar energy by 2015
• To achieve grid parity by 2015
• To encourage indigenous Solar manufacturing in the State
• To promote Research and Development in the Solar energy sector and hybrid systems
• To create skilled manpower and employment in the new industry

BROAD BASED OBJECTIVE TO BENEFIT A WIDE RANGE OF STAKEHOLDERS
Tamil Nadu Lessons: (Opportunity for improvement)

TN State Regulatory Commission Order in Case 1 of 2013 has directed as follows:

4.2. Solar Purchase Obligation (SPO)
4.2.1. As prescribed in the Solar Policy, 6% SPO starting with 3% SPO till December 2013 and 6% from January 2014 is applicable for the following category of consumers:

(a) HT Consumers (HT Tariff I to V)
This category will cover all HT consumers including:
(i) Special Economic Zones (SEZs)
(ii) Industries guaranteed with 24/7 power supply
(iii) IT parks, Telecom towers
(iv) All Colleges & Residential Schools
(v) Building with a built up area of 20,000 sq.m or more

(b) LT Commercial (LT Tariff V)
Summary of findings (of the Tribunal):

i) The State Commission in discharge of its functions under the Electricity Act, 2003 has to be guided by the directions of the State Government u/s 108 of the 2003 Act but the same are not mandatory and binding. The State Commission being an independent statutory authority is not bound by any policy directions which hampers its statutory functions.

“ii) The State Commission has to be guided by the directions of the State Government u/s 108 of the Act only in discharge of the functions assigned to it under the 2003 Act. Such directions have to be implemented only under the functions and powers assigned to the State Commission under the 2003 Act. The Act only provides for specifying the purchase obligation from the renewable energy sources under Section 86(1)(e). Thus, the directions of the State Government for SPO can only be considered by the State Commission in exercise of its powers under Section 86(1)(e) of the Act.”
TAMILNADU Lessons: (Opportunity for improvement)

4.2.4 Enforcement Mechanism
4.2.4.1 The SPO will be administered by TANGEDCO

4.3 Net metering
4.3.1 For Domestic Rooftop Solar generators, the consumer meters shall be replaced with suitable meter(s) for net metering. The meter/meters for net metering shall be installed by the distribution licensee at the cost of the consumer/generator. The TANGEDCO shall submit a detailed procedure covering the following
a) Standards and location of meters
b) Tariff for excess generation/lapsed units
c) Period of power credit
d) Any other related issue.

4.4 LT Connectivity
4.4.1 The TANGEDCO shall evolve a detailed procedure for LT connectivity and get the same approved from the Commission. The procedure shall include make standards for inverters, harmonics standards, synchronization to the grid, safety/protection norms, norms for generator capacity versus connecting voltage etc.,

NOTE: CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2012. have been issued and are awaiting MoP approval
CERC, vide its order dated 16.1.2013 directed to implement the Renewable Regulatory Fund (RRF) mechanism with effect from 1.7.2013. Subsequently, CERC, in its order dated 9.7.2013, while approving the Detailed Procedure for implementation of RRF mechanism directed implementation of the mechanism with effect from 15.7.2013.

NOTE:
CERC, in the amended “Indian Electricity Grid Code” (issued in 2010), has specified as follows:

“Annexure 1

. In case of solar generation no UI shall be payable/receivable by Generator. The host state shall bear the UI charges for any deviation in actual generation from the schedule. However, the net UI charges borne by the host State due to the solar generation, shall be shared among all the States of the country in the ratio of their peak demands in the previous month based on the data published by CEA, in the form of regulatory charge known as the Renewable Regulatory Charge operated through the Renewable Regulatory Fund as referred to in clause 5 above.”

SLDC of Gujarat has already issued the rules for implementation of RRF in the state, in alignment with the directives of CERC, with effect from 15.7.2013. Therein, the details regarding pooling station and co-ordinating agency, also have been defined/elaborated
The Commission has noted as follows:

3.46. RRF, which is a complementary commercial mechanism created by CERC to ensure that, a renewable power generating unit is unaffected due to deviation from its schedule within permissible limits, should be made applicable in Maharashtra, so that, on exceeding the permissible limit, the additional energy generated / energy deficit is charged at UI charges corresponding to the prevalent frequency. This will be addressed in new Intra-State ABT mechanism.

3.53. The suggestion to include RE Generators and CPPs in SMP calculation, would be addressed in the new Intra-State ABT mechanism.
MAHARASHTRA REGULATORY PROGRESS REGARDING SOLAR

REGULATORY ACTIONS THEREUPON REGARDING TARIFF, METERING, BANKING, CONNECTIVITY, BILLING ETC ARE AWAITED

STATE GOVT POLICY DECISION TO FACILITATE FOR BETTER TECHNICAL, COMMERCIAL, ADMINISTRATIVE VIABILITY ARE AWAITED

MERC (RENEWABLE PURCHASE OBLIGATION, ITS COMPLIANCE AND IMPLEMENTATION OF REC FRAMEWORK) REGULATIONS, 2010. ISSUED 7 JUN 2010

MERC (TERMS AND CONDITIONS FOR DETERMINATION OF RE TARIFF) REGULATIONS, 2010 ISSUED 7 JUN 2010
Take decisions regarding:

- Defining the Types / Categories and Capacities of Solar plants covered under the Policy
- Time boundaries for scheme development
- State Incentives and time frame thereof
- Availability of State Resources: Land, Water etc
- Cost sharing for Transmission infrastructure and Grid connectivity
- Defining extent and Limits of Public-Private Participation
- Modality of Developer selection, Bid process co-ordination
- Identifying the State level Nodal Agencies for facilitation and implementation of the said Solar Power Policy
- Applicability of Electricity Duty and other Taxes to solar electricity generated
• **Recognise Regulatory Commission’s Role regarding:**
  • Tariff determination
  • Banking of Electricity
  • Conditions of captive use and sale of electricity to third party
  • Determining Cross-subsidy charge, Wheeling Charges
  • Setting RPO, SPO limits, Detailing out Rules regarding Co-ordinating agencies
  • Metering of Electricity (State level metering Rules)
  • Connectivity for Distributed generation, Rules for Pooling stations
  • Reactive power charges
  • Sharing of CDM benefit
  • Codes for Forecasting & Scheduling of Solar Power
  • Regulations regarding Billing,
  • Setting Deviation limits, Balancing and Settlement of State Power Pool
  • Setting up Grievance handling mechanism
Happy Consumers

The enablers

DISCOMS

SOLAR POWER PRODUCERS

REGULATORY DISCIPLINE
RELIABILITY
COMPETITIVENESS

STATE GOVERNMENT POLICIES

DIRECTIVES AND REGULATIONS OF THE STATE ELECTRICITY REGULATOR

THANK YOU