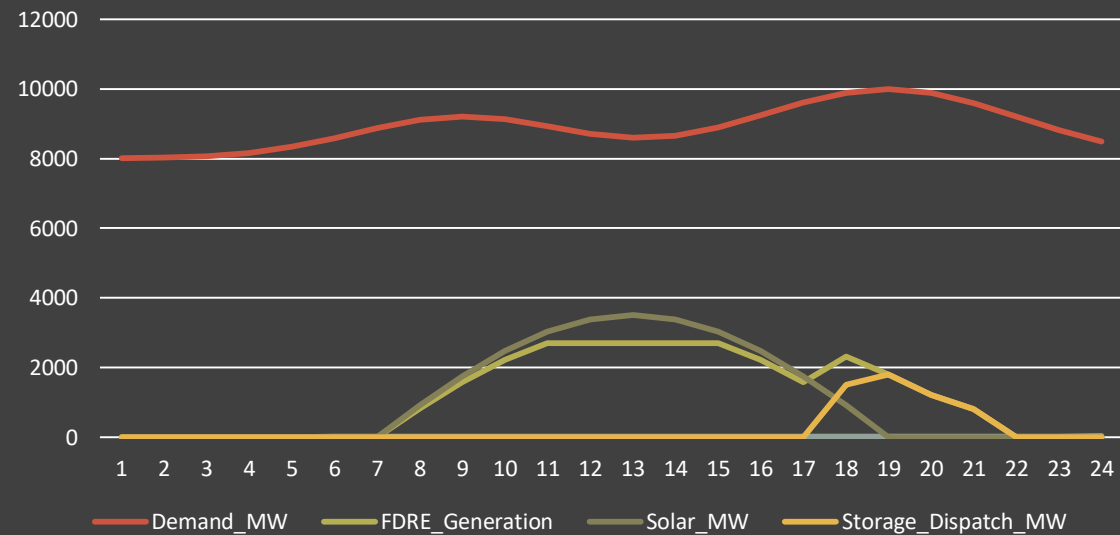


Firm and Dispatchable Renewable Energy

GUJRAT URJA VIKAS NIGAM LIMITED

Why firm & Dispatchable RE (FDRE)?

- ❖ Meeting ramp/peak needs
- ❖ Underutilization of Network
- ❖ Grid Balancing and System reliability
- ❖ Long term capacity adequacy
- ❖ Replacing fossil base-load
- ❖ Renewable Purchase Obligations
- ❖ Storage Purchase Obligations



MoP / MNRE FDRE bidding guidelines

- ❖ Enabling Provisions for ESS integration
- ❖ RE Power defined – Wind or Solar or Hybrid or Combination thereof with ESS
- ❖ FDRE defined – configurations like
 - ✓ assured peak,
 - ✓ fixed hour based procurement,
 - ✓ RTC RE Power,
 - ✓ Seasonal procurement,
 - ✓ Demand or Load following delivery as specified by DISCOMs
- ❖ Developer to install storage capacity itself or have tie up with third party storage developer
- ❖ 100% Annual energy shall be offered through RE Power
- ❖ 5% RE power can be sourced from Green Market sources / bilateral agreements
- ❖ Penalty of 50% of tariff for the units not supplied

Recent Updates in Guidelines

- ❖ Conditions debarring developers from future bids removed
- ❖ Approval of Commission for deviations instead of Government
- ❖ Provisions of 'Change in Law' shall be as per MoP Rules.
- ❖ Provisions for specific list of Sub-stations where projects to be installed has been included.
- ❖ Event of Default of Generator in case of failure to meet CUF for 2 full years.
- ❖ Compensation equivalent to 24 months billing at agreed tariff in case of default
- ❖ Mandatory installation of GPS enabled automatic Weather station
- ❖ Mandatory for procurer to approach commission with 30 days of auction

GUVNL FDRE Tender – Key Provisions

- ❖ **Capacity**– 500 MW Base Capacity + 500 MW Greenshoe Option (issue of capacity extent in case of Greenshoe, mismatch with solar tender conditions)
- ❖ **Technology scope** - Solar or Wind or Hybrid + BESS or PSP
- ❖ **Demand Fulfilment Ratio** (average of each block in a month)
 - ✓ 90% in peak hours (7 to 10 AM and 16 to 20 PM)
 - ✓ 80% in off peak hours (Other than Peak hour)
 - ✓ Penalty @1.5 times the PPA tariff for shortfall
- ❖ **Scheduled Commencement of Supply Date (SCSD)** –
 - ✓ within 24 months of date of PPA
 - ✓ Provision for 6 months extension with payment of LD
- ❖ **Connectivity** – ISTS or Gujarat STU, Co-located or located at different grid substations
- ❖ **Bid Capacity** – Minimum 50 MW and Maximum 500 MW. To be quoted in multiples of 50 MW

GUVNL FDRE Tender – Key Provisions

❖ **Delivery Point**

- ✓ STU Interface.
- ✓ Delivered Energy in case of projects at CTU grid shall mean the energy supplied at STU interface

❖ **Project Location**

- ✓ Projects can be located anywhere in India.
- ✓ RE generation components, along with ESS, may either be co-located or at different locations.
- ✓ Different components can be connected with STU/CTU network at different ISTS/InSTS sub-stations
- ✓ Sum of generation schedule of RE power from multiple sources cannot exceed Contracted Capacity.

GUVNL FDRE Tender – Key Provisions

❖ Excess Power Supply

- ✓ Generator to inform at least 30 days in advance
- ✓ GUVNL has right of refusal. To convey acceptance within 15 days.
- ✓ Generator can sell refused power in PXs / Bilateral.
- ✓ Any instance of third party sale without GUVNL's consent shall attract penalty at 1.5 times market rate

❖ Generation Compensation for Backing Down / Grid Unavailability

- ✓ No compensation upto 175 hours in a year
- ✓ Penalty at PPA tariff for the energy corresponding to backing down.
- ✓ Compensation applicable only in case Generator places supply bid in PXs, 95% of realization to be adjusted from compensation
- ✓ Interpretation of Must Run rules for Generation compensation

❖ Early commissioning prior to SCSD

- ✓ Purchase at full tariff in case of part / full early commissioning of projects
- ✓ In case of early commissioning of components purchase at 50% tariff outside the ambit of PPA.

GUVNL FDRE Tender – Key issues

- ❖ For proper Bid Evaluation due to different regulations in LTA STU vs GNA ISTS – incremental transmission charges beyond contracted capacity to be borne by developers.
- ❖ Potential issue regarding non-installation or very minimal installation of ESS and subsequent contractual disputes.
- ❖ Issue of oversizing limits for Contracted vs Installed Capacity of different components & implementation issue in operating Change in Law formula for tariff revision.
- ❖ Interconnection & curtailment compensation rules and claims by generators.
- ❖ Allowing 5% power sourcing from Bilateral / Open market – implementation thereof.
- ❖ Allowing scheduling through third party Storage Developers – implementation thereof.
- ❖ Ring-fencing of generator-storage developer contractual disputes in case of third party Storage.
- ❖ Potential control of bidding and auction by large scale PSPs, particularly when PSP participates through multiple RE developers.

THANK YOU