Round the Clock (RTC) RE Projects
Issues in simple deployment of RE projects

- **Intermittent generation**
  - Continued Dependence of conventional sources.
  - (~ 260 GW* by 2022 & 400 GW* of by 2030) (* after adjusting for unavailability and max loading)

- **Generation and load mismatch**
  - Curtailment of RE power to maintain technical minimum of other sources.

- **Occurrence of Duck Curve**
  - Demands steep ramping rates of conventional power plants
  - Requirement of fast response balancing plants like gas or Storage

- **Fluctuating generation of RE projects**
  - Difficulty in scheduling due to Intermittent generation.
  - Huge Storage capacity requirement to maintain grid.

- **Requirement of additional transmission network.**
• Complete replacement of thermal Projects by RE is the solution.
• Round the Clock RE projects need to be promoted.
RTC RE solutions

• Round The Clock RE projects need to be promoted for
  • Absorption of 175/450 GW RE by the grid
  • Avoidance of Duck curve
  • Reducing curtailment of RE Power.
  • Grid stability.
  • Guaranteed Base load supply.
  • Promotion of quasi-merchant power.

• SECI released first of its kind 400 MW RTC – RE tender on demand by some utilities.
  • Assured round the clock delivery of power
  • 80% CUF annual & 70% CUF monthly
  • Allowed multiple injection points
  • Tariff with 3% annual escalation for 15 years
  • Excess generation can be sold in open market.

• It requires 200 GW of baseload by 2030.
• 50 GW RTC – RE projects required to replace 25% of base load.
• 50 GW RTC RE - needs 150 GW of RE project capacity.
Results of RTC RE tender – Cheaper than thermal

• The tender was oversubscribed by 2.1 times

• First Year tariff of Rs 2.91/kWh.

• Levelized tariff of Rs 3.59/kWh.

• The RTC-RE is clean power and also fulfil the RPO obligation of the utilities.

• Levelized tariff is Cheaper than thermal power in terms of tariff and other impacts
  • Rs 4.9/kWh with escalation in variable tariff. (MP auction)
  • RPO obligation.
  • Environmental impact.
  • High water consumption
Conclusion

- This is the time to work on development of RE projects to suit the base load of the demand.
- 400 MW RTC –RE tender is first step in this direction.
- The Power offered through the proposed tender assures round the clock power supply.
- First Year tariff of Rs 2.91/KWh is competitive directly in tariff of conventional power.
- Lean RE power has other benefits over the convectional power.
- SECI will continue to work on such tenders with further improvements based on the market maturity.
- SECI is also focusing on peak, Intermediate needs of power demand of utilities.
THANK YOU