Selection of Project Developer for Setting up of 25 kW Green Hydrogen based Pilot Project at SNM Hospital, Leh

(RfS No. SECI/C&P/IPP/17/0005/21-22 dated 07.02.2022)

Solar Energy Corporation of India Limited

(A Government of India Enterprise)

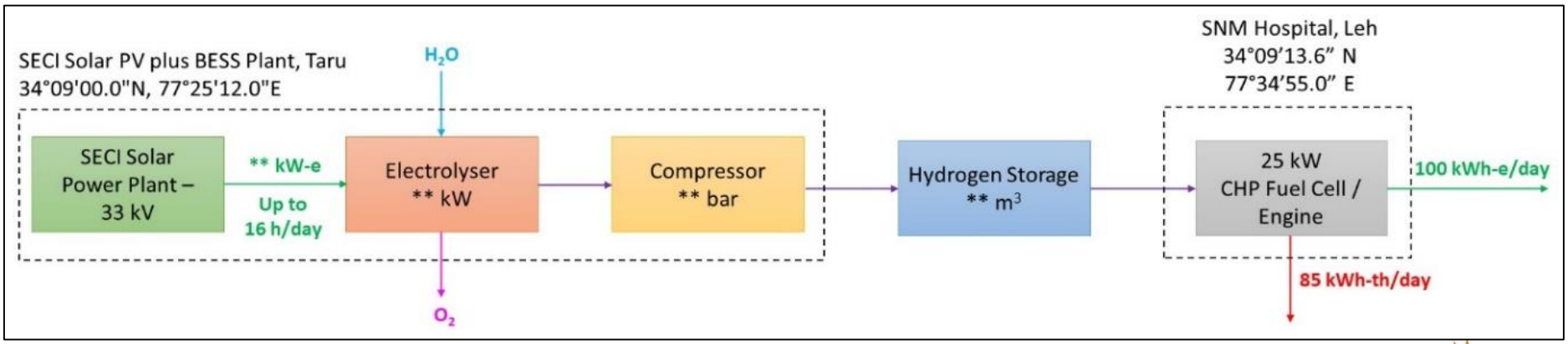
About SECI

- Authorised share capital: Rs. 2000 Cr.
- Paid up share capital as on 31st Mar 2021: Rs. 354 Cr.; additional Rs. 1000 Cr. approved in –principle by Govt.
- Net worth: Rs. 873.58 Cr (as on 31st Mar 2021)
- Debt-free company
- Category I (highest) Power Trading Licensee by CERC
- Making profits since 2014-15
- Credit rating of AAA by ICRA

Project Configuration

PROJECT shall mean the 25kW system envisaged to install the following 2 components:

1. Hydrogen production component: Hydrogen production (Electrolyzer), compression (Compressor) and storage components, at the premises of SECI's 20 MW (AC) Solar PV Project along with 20 MW/50 MWh BESS at Village Taru. Land shall be provided by SECI.
2. Electricity, Heat and Oxygen supply component: Combined Heat and Power (CHP) Fuel cell/ Gas Engine and associated system, at the SNM Hospital, Leh. A 20 m x 6 m plot has been identified at the Hospital. (Approx distance from Taru- 20-22 km)



Site at SNM Hospital

Scope of Work

Design, supply, testing, commissioning of green hydrogen based complete power-to-power cycle system along with Metering arrangement for Supply of 100 kWh-e of electricity per day and 85 kWh-th of heat per day at SNM Hospital for 15 years, including but not limited to :

1. Supply, Testing and Commissioning of suitably sized Electrolyzer for electrolysis of water for production of Hydrogen. The supply of water of required quality for the electrolysis shall be in the scope of the Developer. Hydrogen production, compression and storage components of the project shall be installed at the premises of SECI's Solar PV plus BESS Project (hereinafter referred to as the "Solar PV Project") at Taru.
2. Installation of protection and metering system (415 V) at the Solar PV Project at Taru for input power to the Electrolyzer.
3. Supply, Testing and Commissioning of Hydrogen Storage Tanks at adequate pressure as per PESO guidelines to provide for 2 days of autonomy of Power Supply (with reference to the Project design).

Scope of Work Contd.

4. Transportation of Hydrogen from the Solar PV Project location to the location of the Project for operation of Gas-to-Power Plant.
5. Integration of Electricity and Heat Output into the existing system of the Hospital including metering arrangement.
6. Supply, Testing, Commissioning of Hydrogen fuel cell-based power stacks along with auxiliary systems like converter/Inverter, hydrogen storage module, Hydrogen Safety, equipment, Fuel cell control system, propulsion control system, air handling unit, heat exchangers etc. (i.e. Balance of Plant) required for producing heat and power along with EMS (Energy Management Strategy) complying with IEC/international standards specified herein.

OR

Supply, Testing, Commissioning of Reciprocating Internal Combustion Engine along with auxiliary systems as per standards specified herein.

Performance Criteria

- Power required for electrolysis shall be provided by SECI at the tariff as indicated in PSA executed between SECI and Developer, for a maximum duration of 16 hours per day from the Solar PV Project.
- Capacity of hydrogen storage shall be sufficient enough to store fuel required to run the fuel cell/ gas engine for 2 days. Electrolyzer rating shall be chosen in such a way that hydrogen is available for one day operation of fuel cell/ gas engine even in extreme scenario of “no radiation” for a complete day once a week.
- Oxygen produced may be utilized by the Developer for suitable applications; no off-take guarantee for oxygen shall be provided by the Hospital.

- The Hydrogen production component will be provided electricity from the Solar PV Project through a 415V feeder. The electricity, heat and oxygen supply component will be connected to the 11kV feeder at the Hospital.
- Metering will be done at the above two points, through ABT (main and check) meters.
- For heat output, thermal energy meter shall be provided by the Developer at the Hospital.

Major Provisions of RfS

Supply Agreement (SA)- within 30 days from LoA- between the Hospital and Developer- for supply of electricity, heat and oxygen to the Hospital from the Project

Power Sale Agreement (PSA)- within 15 days from SA- between SECI and Developer- for supply of power from SECI's Solar PV Power Project

SA and PSA- valid for 15 years from COD

Financial Closure- within **12 months** from the Effective Date of PSA.

SCD: **12 months** from the Effective Date of PSA, additional LD period of 6 months

Cost of RfS document: Free of Cost

Bid Processing Fee: Rs. 6000 including GST

EMD: Rs. 1,34,000/-

PBG: Rs. 2,68,000/-

Financial Eligibility Criteria

- **Min. Net-worth**: **Rs. 13.4 Lakhs**, as on the last date of previous Financial Year, 2020-21 or as on 7 days prior to bid submission deadline.
- **Liquidity:** Bidder shall be required to demonstrate at least one of the following parameters as on the last date of FY 2020-21 or as on 7 days prior to bid submission deadline:
  - Minimum annual turnover of **Rs. 12.15 Lakhs**
  - Minimum PBDIT of **Rs. 2.43 Lakhs**
  - Minimum Line of Credit of **Rs. 3.04 Lakhs**

Selection Criteria

- **Tariff:** The tariff applicable under the RfS shall be in terms of Rs./kWh. The meter used for measuring the heat supply will record the heat supplied in terms of kWh. These thermal units will be added to the energy supply recorded by the electrical energy meter (kWh), providing the total energy supplied from the Project in terms of kWh. The monthly billing will be carried out by multiplying the applicable tariff with the sum of thermal and electrical energy units as recorded by the respective meters.
- **Successful Bidder:** The Bidder quoting the lowest tariff in the financial bid ("L1 Bidder") shall be declared as Successful Bidder.

Thank You