

Ref : PILC/06
Date : February 18, 2006

SUZLON ENERGY LTD.
UNIT-IV, OPP. WHIRLPOOL INDIA LTD.
OFF. VILLUPURAM ROAD
VILLAGE THIRUVANDARKIL
MANNADIPET COMMUNE
PONDICHERRY - 605 107.

Dear Sirs,

Sub: PURCHASE ORDER FOR SUPPLY OF 2 NOS. WIND MILL
Location : Chinnaputhur (Coimbatore)

Please refer our discussions for supply of 2 Nos. of SUZLON make Wind Turbine Generator (WTG) model S.66 -1250 kW with Tubular Tower having 74 m hub height. We are pleased to place our Purchase Order for the same as follows:

1. **Quantity**

- 2 Nos. WTG type SUZLON S66-1250 kW rating with Tubular Tower having 74 meter hub height. The scope of supply is as given in your offer and further as per the technical specifications attached (Annexure-1).

2. **Delivery**

- The delivery will be made from your Pondicherry works to our site. The delivery of WTG shall be completed **on or before March 21, 2006**. Part shipments of individual WTG will be accepted.
- We reserve the right to depute our representative or third party consultant, if we desire to do so, for inspection of major components at your factory prior to dispatch.
- Completion of delivery and commissioning is the essence of the contract, in view of taxation benefits. In case of any delay beyond scheduled contract period, suitable compensation to be mutually discussed and arrived at.

3. **Price**

- For WTG as specified above, we agree to pay **Rs.476.81 Lacs** per WTG (**Total Rs.953.62 Lacs**) towards total consideration is firm for the supply in total, which may be, bifurcated item wise by you.
- The delivery terms are F.O.R. our site.
- The above prices include taxes, duties, levies etc. at the prevailing rates.
- We will issue 'C' Form within 7 days from the date of receipt of your invoice. In case it is not possible to issue 'C' Form, we agree to pay Sales Tax @ 10% or general rate of tax whichever is higher, subject to adjustment of 4% CST which is in-built in the price agreed upon.

PATSPIN INDIA LIMITED

EXPORT / REGD. OFFICE :

3rd/5th Floor, Palal Towers, M.G. Road, Ravipuram, Kochi-682 016, India
Phones : 91-484-2371822 (6 Lines), Fax: 91-484-2370812/2371007
E-mail: fin.ho@patspin.com

4. Payment Terms

We will effect total payment of Rs.953.62 lacs as under:

- Rs.95.20 lacs as interest free advance along with order
- Rs.245.20 lacs on intimation of dispatch of tower material.
- Rs.245.20 lacs on intimation of dispatch of nacelle.
- Rs.245.20 lacs on intimation of dispatch of blades.
- Rs.122.82 lacs on completion of erection
- We confirm that the payments will be made as indicated above.
- An interest @12% p.a with monthly rests will be paid to you on all outstanding payments if any from the date of agreed payment schedule.
- In any case all the payments shall be effected by us within a maximum period of 15 days from the date of completion of supplies.

5. Generation

- The estimated generation of 34.00 lac units per WTG per annum (measured at controller duly adjusted for 100% grid availability) has been arrived at considering the certified power curve of the WTG and the wind data published by IITM / C-WET Govt. of India from their nearby mast.
- If the actual generation, measured at the controller and adjusted for 100% grid availability, for a period of 12 months from the date of regular running of the WTG falls below the average generation of the best 10 WTGs in the same Region during the corresponding period, you will compensate for the difference in generation as per prevailing TNEB tariff, i.e. which is currently at Rs.3.67 for captive consumption and Rs.2.70 for sale to TNEB.

6. Warranty

- You will provide us **two years warranty** effective from the date of commissioning against all defects in components, material and engineering. You will undertake all repairs/replacements of the WTG parts as required during this warranty period at your cost.
- These warranty provisions will be null & void if the WTG units are opened in the absence of your engineers or without your prior written consent.
- This warranty will not cover damages due to lightning and over voltage and normal wear & tear.
- Warranty provided by you is subject to full payment by us as per terms of this purchase order.

17. Operation and Maintenance

- You will provide one set of your Operation & Maintenance manual.
- You will make necessary arrangements for a contract covering Operations, Maintenance, Security & Spares with an O&M Service Provider free of cost during the 1st & 2nd year of operation; from 3rd year to 10th year from date of commissioning we agree to pay O&M charges @ Rs.10.00 lacs per WTG per annum with 5% annual escalation from 4th year, for each year cumulatively.
- From 11th year onwards the O&M will be carried out as per mutual agreement.
- We will not take any policy covering machinery break down.
- We will enter into an O&M contract with the service provider arranged by you before expiry of the free O&M period.
- You will arrange to maintain minimum 95% machine availability throughout the contract period through your Operation & Maintenance Service Provider as per the calculations below :

$$\text{Machine Availability \%} = \frac{(\text{No. of machines}) * (\text{Recorded Hours}) * 100}{(\text{No. of machines}) * [8760 - (\text{GF} + \text{FM})]}$$

Where, Recorded Hours = $[8760 - (\text{GF} + \text{FM} + \text{S} + \text{U})]$

- 8760 - Number of total hours for a machine in an year (24 x 365 days)
- GF - Grid Failure hours
- FM - Force Majeure hours
- S - Scheduled maintenance hours for machine
- U - Unscheduled or Forced Maintenance Hours for a machine

- Dynamic & Intelligent, with PF greater than 0.9
The import KVRH in PF should not fall below 0.85. If it falls below 0.85 leading to extra charges by TNEB, you will compensate the extra amount based on monthly billing.

You will ensure that line loss will not exceed 2 to 2.5% of units generated (reading at Controller). Any loss beyond this limit in respect of the units to be exported to TNEB will be compensated as per the prevailing TNEB tariff.

8. Insurance

We will not take any insurance during transit

9. General Terms

- This Purchase Order is subject to jurisdiction of Coimbatore.
- This Purchase Order is subject to Force Majeure conditions as below :
 - a. Fire, Flood, epidemics, earthquake, quarantine restrictions
 - b. War, Invasion, Hostility, Acts of public enmity, Sabotages, explosions, strikes, lockouts, revolution, act of civil commotion etc.,
 - c. Government order and /or restrictions, changes in the government policy.

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ANNEXURE-1

d. Maintenance of electrical installations and grid restrictions as imposed by TNEB.

e. TNEB Strike

- Any situation beyond reasonable control.
- This Purchase Order is subject to Standard Arbitration under the relevant Indian Arbitration & Conciliation Act 1996.

Kindly return us a copy of duly signed Purchase Order as acceptance to the terms and conditions mentioned above.

Thanking you,
Yours faithfully,
for PATSPIN INDIA LIMITED

P. C. Sekaria
P.C. SEKSARIA
DIRECTOR

Encl.: Annexure-1.

ANNEXURE-1

TECHNICAL CONCEPT & SPECIFICATION OF SUZLON S66 (1250 kW) WTG

ROTOR

Diameter	: 66 m
No. of Rotor Blade	: 3
Orientation	: Upwind/Horizontal axis
Rotational Speed	: 13.9 / 20.8 rpm.
Rotational Direction	: Clockwise
Rotor Blade Material	: GRP
Swept area	: 3421 m ²
Hub Height	: 74 m
Regulation	: Pitch regulated

OPERATIONAL DATA

Cut in wind speed	: 3 m/s.
Rated wind speed	: 14 m/s.
Cut off wind speed	: 22 m/s.

GEARBOX

Type	: Integrated 3 Stage 1 planetary & 2 helical
Gear ratio	: 1: 74.917
Nominal load	: 1390 KW
Type of cooling	: Oil cooling system, Forced lubrication
Make	: Winergy (Flender)

GENERATOR

Type	: Asynchronous 4/6 pole
Rotation speed	: 1006/1506 RPM
Rated output	: 300/1250 kW
Rated voltage	: 690 V
Frequency	: 50 Hz
Insulation	: Class "H"
Enclosure Class	: IP 56
Cooling system	: Air cooled
Make	: Siemens / Ellim

OPERATING BRAKES

Aerodynamic brake	: 3 Independent systems with blade pitching
Mechanical brake	: Spring powered disc brakes, hydraulically released, fail safe

YAW DRIVE

Method of operation	: 4 Active electrical yaw motors
Bearing type	: Polyamide slide bearing

CONTROL UNIT

Microprocessor control with graphic backlit LCD display indicating operation conditions. Control includes thyristor switchgear watchdog for operation, monitoring, log with real time, local control and servicing interface. Optional remote monitoring & operation. UPS back up system.

Reactive Current Compensation

Compensation : Dynamic & Intelligent, with PF greater than 0.9
The import KVRH in PF should not fall below 0.85. If it falls below 0.85 leading to extra charges by TNEB, you will compensate the extra amount based on monthly billing.

You will ensure that line loss will not exceed 2 to 2.5% of units generated (reading at Controller). Any loss beyond this limit in respect of the units to be exported to TNEB will be compensated as per the prevailing TNEB tariff.

SAFETY SYSTEMS

1. Brake System : Automatic application by synchronous hydraulic control of the blade pitching in case of:
 - Vibration or shock loading
 - Over temperature of the gearbox or generator failure of the thyristors & control in the case of wind speed in excess of 22 m/s.
 - Variation in the Rated Voltage Range
 - Variations in the Frequency range
 - Asymmetric phasing
 - Line interruption- with automatic reconnection
2. Brake System : Spring applied hydraulically released disk brake.

TOWER

Type : Free standing, Tubular Tower,
Tower Height : To suit hub height
Construction : Bolted
Erection : With crane
Design : GL special class

For PATSPIN INDIA LIMITED

P. C. Sekaria
PCSEKSARIA
Director