Notice inviting proposal from reputable firms for the study of Wind Turbine.

Peoples Steel Mills Ltd., seeks expressions of interest from reputable companies for the Technical & Financial study, including the provision for the installation of Wind Turbine with its in premises.

Details scope of work is attached here with interested companies are invited to submit their Technical & Financial proposal (Including SST) till 25th November, 2024 to the following:
Emails: shad@psmltd.com, ali.imran@psmltd.com, ashaheen@psmltd.com

Validity of the Bid 30 days

Timeline

The timeline for completion of scope of the assignment shall be within 09 weeks from the date of contract award.

Contact person:
Syed Shadullah (0333-2346611)
Ali Imran (0334-0128802)

Technical Terms of Reference for Feasibility Assessment of Wind Turbine Generator

Project Objective

The primary objective is to assess the feasibility of installing a wind turbine generator system to reduce reliance on conventional energy sources, enhance sustainability, and achieve operational cost savings.

Scope of Services

The consulting firm will be responsible for a comprehensive feasibility assessment, covering both technical and economic aspects as follows:

A. Technical Assessment

1. **Load Profile Analysis and Renewable Energy Sizing:**
   - Collect facility energy usage data, analyze the daily and seasonal load profile, and calculate the optimal WTG capacity for the site.
   - Create a representative load profile and utilize modeling software, such as HOMER™, to simulate potential scenarios and demand profiles.

2. **Wind Resource Assessment and WTG Micro-Siting:**
   - Conduct a thorough wind resource assessment using data sources such as WindPro™ or other verified databases for wind speed, direction, and terrain.
   - Perform statistical calculations to co-relate and predict long term site characteristics based on available data sets.
   - Identify optimal turbine locations and micro-siting strategies to maximize energy generation while minimizing potential environmental and logistical constraints.

3. **Site Survey and Installation Feasibility:**
   - Perform a comprehensive survey to confirm site conditions, including review of geotechnical assessment and topographical analysis.
   - Determine the transportation and access paths and space requirements.

4. **Energy Production and Performance Modeling:**
   - Calculate the Annual Energy Production (AEP) for various WTG configurations and identify Optimal generation sources.
   - Include potential seasonal fluctuations in energy production due to local climatic conditions.

B. Financial Assessment

1. **Cost Analysis and Financial Modeling:**
    - Develop a detailed financial model incorporating all CAPEX, OPEX, and other project expenses, as well as revenue projections based on projected energy production.
    - Perform scenario analysis using 100% equity-based funding, factoring in varying IRR, LCOE, and NPV.

2. **Return on Investment and Feasibility Analysis:**
    - Provide a breakdown of expected ROI metrics (IRR, Discounted Payback Period, and NPV).
    - Simulate different financial scenarios based on potential variations in tariff rates, energy output, and financing options.

C. Regulatory and Environmental Compliance

1. **Clearance and Permit Evaluation:**
    - Identify all necessary permits and clearances, including those from local environmental, marine, aviation, and grid connection authorities.
    - Ensure compliance with national and international regulations, such as EPA and ADB guidelines, with recommended mitigation for any potential disruptions.

2. **Risk Assessment and Mitigation Planning:**
    - Address risks associated with installation, operation, and maintenance, including environmental impacts, safety protocols, and project delays.
    - Prepare noise, EMI, and structural impact isolines and assessments to ensure compliance and minimal disturbance to the surrounding community and facilities.

Deliverables

1. **Techno-Economic Feasibility Report** detailing:
    - Load analysis, WTG sizing, and energy production models.
    - Comprehensive financial analysis and feasibility scenarios.
    - Permits, compliance requirements, and mitigation strategies.

2. **Installation and Operational Plan** including site access, geotechnical findings, transportation path and clearance distances.

3. **Executive Summary and Recommendations** summarizing the most feasible WTG configuration, ROI estimates, and way forward.

Quality Control and Assurance

The report and supporting documents must meet industry standards, adhere to IEC 61400-1 wind energy design requirements, and satisfy the client's requirements for technical accuracy, financial projections, and regulatory compliance.

Eligibility & Team Requirements

a) The bidder shall be a registered Testing, Inspection & Certification entity. International firms are encouraged to apply.
b) The bidder shall have proven experience in conducting Wind Resource Assessment for both commercial and utility scale wind projects.
c) The bidder shall have valid licenses for deployed simulation software such as Wind Pro.
d) The bidder's proposed Project Lead shall have 3 or more years of RE design experience including competence in Wind design simulation tools. Project lead will also be the Project Manager for feasibility assessment activity.
e) The company shall be financially sound the firm shall submit last 3 year audited financial reports.

Minimum Requirements for feasibility team under the team lead should be as follows:

1. Project Engineer with professional experience of at least 3 years in mechanical, electrical or other relevant engineering discipline and proven experience in Wind resource assessment.