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AA/KP

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Subject: Clarification No. 4
Request for Proposal (RFP) No. 1100127849

1. For Sibutu: Please share more details of site condition. Is there an available powerhouse/ control room to install Synchronizing panel? If so, what's the dimension of spare area for this installation?
There is an existing powerhouse owned by NPC-SPUG. Just consider minimal panel size.
2. Similar to above question, about current existing panel, what is the step-up voltage. Single Line Diagram is not clear about the voltage after voltage step-up."
The step-up voltage of the power plant is 13.2 kV line to line.
3. For Sibutu: For the PV+BESS (Battery Energy Storage System), where is the feed-in point? Do we need to consider modification of existing panel or we shall provide a new panel? For the case of new feed-in panel, please share more about the location, such as whether there is a building/ room we could use or we need to build one by ourselves?"
Provide a new panel and this can be installed in the existing powerhouse.
4. For Sitangkai: For the location of PV-Feed in point and Installation place of genset, what is the distance between these two place?
The bidder can recommend since the entire hybrid system is included in the scope for Sitangkai.
5. "The summary of Year- 5 load details are not matching with Year-5 Load Projection details. Eg: In summary Average load demand for year 5 is shown as 412kW for Sitangkai Island, however the average load turns to be only 271kW. Please clarify."
Please refer to the hourly data provided for your load analysis.
6. Whether Annual Production output of 2,907,000 kWh (diesel+solar) is to be considered only for design? (Sitangkai) Generation is curtailed if load is not available. We understand from the load data sheet that annual energy consumption of sitangkai for year 5 is less than 2,907,000 kWh.
Consider it for the design. Yes, the projected demand is lower than the annual production output.
7. Whether the losses in battery charge/discharge is included in the production output of 2,907,000 kWh? (Sitangkai). I.e., Clarify if the required Production output is measured at the outgoing feeder of Main distribution panelboard which consists of net electricity from Solar+Diesel+Storage.
The required 2,907,000 kWh is the gross production output.
8. What is the power factor of the island load expected? Any requirement for motor-starting currents? Are there any Automatic Powerfactor correction Capacitors installed in the network?

No power factor correction capacitors installed. The load is mostly from residential consumers only with limited motor loads.

9. How many Diesel generator units to be considered in Sitangkai island? Any requirement for redundancy?
Consider n-1 contingency for the number of diesel generators.
10. "Usable capacity >80% - Does it mean 80% of 744kWh should be usable capacity? (in case of Sitangkai). Whether this capacity is to be made available at AC side on the Main distribution panel board"
Yes, correct.
11. We request you to consider 5 yrs warranty for BESS instead of 8 years, as it is industry standard
Prefer 8 years. Justification is needed for 5 yrs warranty.
12. We understand that minimum two transformers are to be considered for redundancy, total capacity of which is matching the design capacity of plant
Yes, correct
13. Are there any specific requirements for remote monitoring and control?
No specific requirement
14. Should the power plant be designed for 100% automatic operation? (without manual intervention)
100% automatic operation but with capability for manual operation when needed
15. We understand from SLD that point of measurement of energy generation from Solar and DG is at Main distribution panel board incomer feeders. Please confirm.
Please provide points of measurement both for the solar PV and diesel generation.
16. We request UNIDO to relax the requirement of philippine licensed professionals for engineering services.
All engineering services shall be performed by professionals duly licensed in the Philippines or the region.
17. "Is bidder allowed to optimize the solar,DG and battery capacities while complying the below tender requirements.
 - a) The Max allowed capacity of solar,DG and battery are maintained.
 - b) RE penetration rate of at least 35% is satisfied.
 - c) Annual production output is met."Yes, bidder is encouraged to optimize the system.
18. Please Provide all corner Co-Ordinates of respective site, which is required for plant layout design.
Please refer to Clarification No. 2 Question 2.
19. Please confirm the size/capacity of Inverter else confirm that flexibility is with Contractor
Bidder is allowed to recommend

20. "Clarity Required: For compatibility and consistency of supply of parts equipment and spares, each component (e.g. modules, inverters, and electrical switchgear, etc.) must be from the same manufacturer and product line. As there is no such Supplier, supplying module, inverter and switchgear."
Same manufacturer for every component type. Same manufacturer for all inverters and can be a different manufacturer for the modules.
21. Is Contractor is flexible in choosing type of inverter i.e. Central Inverter/String Inverter?
Bidder is allowed to recommend
22. Is Contractor is flexible in choosing Transformer i.e. Cu Winding/Al Winding Transformer?
Bidder is allowed to recommend
23. What will be the length of line from plant end towards local utility integration?
TAWELCO's distribution network will be prepared to meet the generation facility at the latter's facility.
24. Please provide details of metering provision.
The kWh meter must be approved by the Philippine Energy Regulatory Commission
25. Please confirm about DC:AC ratio or else please confirm whether that flexibility is with contractor.
Bidder is allowed to recommend
26. Who will having the scope of liasioning with local utility towards grid interconnection?
TAWELCO is a partner of UNIDO in implementing this project and is the beneficiary of the system. The contractor is expected to coordinate with TAWELCO to ensure integration of the RE Hybrid system with the existing distribution grid.
27. Who will provide/supply the civil construction material? Like- Concrete, fence and road material etc
Please refer to page 5 of the TOR outlining the scope of the contractor stating that land clearing and preparation, right of way preparation, fencing and concrete works (including concrete block foundations for PV modules) will be done by the Provincial Local Government Unit (PLGU) of Tawi-Tawi and will be outside the scope of this service agreement.
28. Who will provide the design of fence, drain? Who will provide the design of foundation of equipments & containers?
The design for fencing and concrete works shall be recommended by the contractor.
29. Technical Specification Compliance: 2.5. Energy Management System and Inverter Requirement: Underwriters Laboratory (UL) 1741 - Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources
Clarification required: Can you be kind enough to confirm if compliance to IEC standards with EU Declaration of Conformity such as IEC 6100, EN62477-1:2012 acceptable?

UNIDO would consider the mentioned standards and their equivalent for each component. If there is any deviation from the required standards, kindly provide a justification.

30. Annex 2 of TOR shows contains the load profiles for Sibutu and Sitangkai. There are 2 tables, one containing the peak, average and minimum demand for the systems. And the other table which is titled with “Year 5 Load Projection for Sibutu (kW)”.

If we look at the table, we receive following values for MAX, AVERAGE and MIN (example Sibutu):

MIN	71.2 kW
AVG	151.1 kW
PEAK	296.45 kW

Those are different from the load estimations in the overview table on the left side:

Year 5	Peak Demand	356.3 kW
	Average Demand	205 kW
	Minimum Demand	117.6 kW

Please, clarify if the “Year 5 Load Projection for Sibutu / Sitangkai (kW)” shall be representing the basis for all 5-year load estimations or whether bidders are expected to extrapolate this data based on the information of the left hand table.

Kindly refer to the hourly data provided for your load analysis and disregard the summary table for year 1 to 25 on the left portion of the excel sheets.

31. As advised, the proposed Hybrid System shall be based on the Year 5 load projection. But how about the size/capacity of the transformers, interconnecting devices and revenue meters? Which do we use as reference for the sizing of the mentioned items? Do we use the Year 5 Peak Demand Load or the Year 25 Peak Demand Load? Ex: Sitangkai Year 5 Peak Demand is 553 KW; for Year 25 it is 1154KW.

Kindly use hourly demand data provided for year 5 for sizing all components, disregarding the summary table for year 1 to 25 on the left portion of Annex 2 RETS Demand Data excel sheets.

32. For Sibutu, do we already include in our proposal the materials for the integration of the NPC gensets? It was mentioned in the TOR that the integration of the existing gensets shall still be discussed and agreed upon with NPC.

Yes, include the proposed mode of integration with the NPC plant and the necessary equipment and materials.

33. Is it acceptable to use single phase transformers (distribution transformers) banked to 3phase for the off-take structure?

Yes, as long as the total transformer capacity is properly sized to supply the demand.

34. Is it mandatory to have LBS, fuse cut-outs, and recloser for the off-take structure? Or can we only have one or two of these?

One or two is acceptable as long as the minimum requirement for protection is met.

35. Please confirm if the secondary line for Sibutu and Sitangkai is 13.2kV. Because in the SLD of the Tandubanak diesel power plant, although is quite blurred, it seems to indicate 13.8kV.

Line voltage is 13.2 kV

36. Section 4.4 of the TOR says "It is essential that the operation of transformer/s will allow the power plant to have a continuous supply electricity even for a limited number of loads during the breakdown of one of the transformers." Does this mean that we need to have at least 2 sets of 3-phase transformers for each site?

Yes, to avoid total power interruption in the event of a breakdown of one of the transformers

37. Is the 5-year warranty requirement for the battery a Product Warranty or Performance Warranty?

Product warranty requirement for batteries is 8 years.

Procurement Services Division

Directorate of Corporate Management and Operations

Department of Operational Support Services