



## RENEWABLE ENERGY DEVELOPMENT DIVISION

### OFFICE OF THE PRIME MINISTER

GOVERNMENT OF THE COOK ISLANDS

---

Private Bag, Avarua, Rarotonga, Cook Islands, Phone: (682) 25 494, Fax: 20 856.

Website: [www.cook-islands.gov.ck](http://www.cook-islands.gov.ck)

---

5 July 2019

## CLARIFICATIONS

### Cook Islands Renewable Energy Sector Project – CIREC 007: CK181929 Rarotonga Battery Energy Storage System Power Station

#### 23. BIDDER QUESTION

*An organizational document, board resolution or its equivalent, or power of attorney specifying the representative's authority to sign the Bid on behalf of, and to legally bind, the Bidder. If the Bidder is an intended or an existing Joint Venture, the power of attorney should be signed by all partners and specify the authority of the named representative of the Joint Venture to sign on behalf of, and legally bind, the intended or existing Joint Venture. If the Joint Venture has not yet been formed, also include evidence from all proposed Joint Venture partners of their intent to enter into a Joint Venture in the event of a contract award in accordance with ITB 11.2.*

Since the bidder have to submit POA & there is no POA format provided in the tender documents. Kindly share the approved format for the same else confirm if bidders can use their own formats for POA.

#### EMPLOYER RESPONSE:

Bidders may use their own format for PoA

#### 24. BIDDER QUESTION

*The primary purpose of the BESS is to be the sole and/or primary source of power system frequency regulation when commanded. Commands for this service will be based on power system conditions. BESS operation in this mode will include times when all diesel generators are off and other times when diesel generators are operated in a setpoint mode (with little or no response to frequency).*

As the clause defines the functionality of BESS shall be along with the existing DG sets. However the given document does not defines the capacities & quantity of the existing DG sets.

Kindly provide the same.

#### EMPLOYER RESPONSE:

Please refer to Section 6 Employer Requirements, Supplementary Information

**25. BIDDER QUESTION**

BESS minimum discharge energy	Beginning of life (BOL)	1000 kWh	1000 kWh
	End of EDLP (5 years)**	800 kWh	800 kWh
	End of 10 years**	600 kWh	600 kWh
	End of cell life (EOL)**	600 kWh	600 kWh

The capacities specified in the mentioned table are different then the capacities required for the tender. Please clarify

**EMPLOYER RESPONSE:**

This has been corrected. Please see Employer notice - Addendum 1.

**26. BIDDER QUESTION**

Forms 3.2 Raw Materials and Utilities Consumption “A minimum of the following levels, or that specified by the Contractor in its bid” Please provide details of minimum level of raw materials and utilities consumption. (minimum levels are missing).

**EMPLOYER RESPONSE:**

There are no functional guarantees for raw materials and utilities consumption Definitions for these measures are as specified in Section 6 – Employer Requirements.

**27. BIDDER QUESTION**

*If the actual measured figure of specified raw materials and utilities consumed per unit (or their average total cost of consumption) exceeds the guaranteed figure specified in para. 3.2 above (or their specified average total cost of consumption), but the actual consumption attained in the guarantee test, pursuant to GCC Subclause 25.2, is not more than the maximum level specified in para. 4.3 below, and the Contractor elects to pay liquidated damages to the Employer in lieu of making changes, modifications and/or additions to the Facilities pursuant to GCC Subclause 28.3, then the Contractor shall pay liquidated damages for the Power Station BESS for grid stability support at the rate shown below.*

- a) Rates for liquidated damages for raw materials and utilities consumption are missing.
- b) In Clause 4.2, it is mentioned that maximum levels are specified in para 4.3. However para 4.3 indicates the Minimum levels. Please clarify.

**EMPLOYER RESPONSE:**

- a) There are no functional guarantees for raw materials and utilities consumption
- b) As there are no functional guarantees for raw materials and utilities consumption, this is not relevant. However, intent of 4.3 is to define limits - for

raw materials and utilities consumption, an upper limit or maximum would typically apply.

## **28. BIDDER QUESTION**

*Over next 6 hours used in an RE smoothing role with a total discharge of 2000 kWh , finishing at SOCmax;*

1. How it is considered that SOC will finish at SOC max (after 6 hours of RE smoothing)?
2. In the event after 6 hours of RE smoothing if SOC doesn't finish at SOCmax then will the Contractor is allowed to charge the batteries from the grid?
3. Does the bidder has to consider In this usage profile overload of 6 MW for 1 sec ?
4. The total discharge of 2000 Kwh(for RE purpose) is it fixed/restricted for throughout 10 year life? is it expected to be revised.

### **EMPLOYER RESPONSE:**

1. smoothing will incur charge / discharge typical of solar variation with cloud cover. For the purposes of usage profile, assume first movement is discharge, and last movement is charge to finish back at SOCmax.
2. This usage profile is for sizing purposes only, it will not form part of on-site guarantee tests. For modelling purposes, bidders can simply assume the last part of the smoothing cycle is a charge from solar to SoCmax
3. Yes (that is, the BESS must be able to deliver the overload after having been in operation, and must be able to continue operation afterwards)
4. The total discharge in c. of the usage profile should be available at year 10. Note though that this is total discharge during solar smoothing, and not a single continuous discharge, thus the BESS usable energy storage at end of life may be less than 2000 kWh (but above 1800kWh as per table 6-2).

## **29. BIDDER QUESTION**

The contractor is to provide prior experience of working with a CEMP  
As CEMP pertains to guideline of Australian codes please confirm if the Foreign bidder can submit other relevant certificates against EHS. (Environment Health & Safety)

### **EMPLOYER RESPONSE:**

The standards referred to are AS/NZS ISO 14001. ISO 14001 is international standard (not Australian / NZ specific). Foreign bidders may submit relevant certificates against international requirements, including alternate international standards where these demonstrate equivalent systems.

## **30. BIDDER QUESTION**

*At End of Life of BESS Cells ( $\geq 10$  years)*

Please confirm if bidder to design the system considering battery end of life (EOL) by 10th year? Is it the preferred option?

**EMPLOYER RESPONSE:**

BESS cells must have a design life for the specified usage profile of at least 10 years.

**31. BIDDER QUESTION**

*Single OEM warranty covering BESS (US\$,000), Two or more OEM warranties covering BESS (e.g. separate PCS and cells) (US\$,000) and Only cell warranties extend beyond EDLP (US\$,000)*

Please clarify following queries.

1. Does that mean both cells and PCS warranties to be taken from single OEM?
2. If BESS vendor provides a wrap agreement for BESS (with separate OEM for battery and PCS but combined warranty for BESS), then will it be termed as single OEM or two OEM`s.

**EMPLOYER RESPONSE:**

1. where both cells and PCS are provided by the same OEM under the same warranty, first rate is applicable;
2. if BESS vendor provides a wrap agreement for BESS beyond year 5, then (subject to the conditions of that agreement) would be treated as a single agreement for the purposes of the evaluation.

**32. BIDDER QUESTION**

*The Employer will provide an auxiliary load power supply / connection point for essential services of the BESS.*

Please confirm the power supply will be on free of cost basis.

**EMPLOYER RESPONSE:**

Energy supplied during construction and commissioning (including auxiliary supply) is on a free of cost basis. Auxiliary loads must be metered and included in round trip efficiency guarantee tests.

**33. BIDDER QUESTION**

*The condition where the energy stored in the BESS is the minimum that allows the BESS to meets the full Employer Requirements (must be less than or equal to the 100% SOC)*

Our understanding of SOC max is -

The condition where the energy stored in the BESS is the maximum and the BESS to meets the full Employer Requirements (must be less than or equal to the 100% SOC). Please confirm .

**EMPLOYER RESPONSE:**

Bidders may offer a battery that has capacity exceeding the requirements of the usage profile (particularly at BoL), in which case, operational maximum may be limited to a value less than 100%SoC. However, the BESS should still be able to be charged to 100% SoC without damage to the BESS or warranty impact (except to the extent this increases long term throughput).

**34. BIDDER QUESTION**

*The contractor must remove existing buildings, and undertake civil works, including drainage and fill as required, to provide a level concrete paved surface, at least 100 mm in depth, across the whole BESS envelope site (~340 m2)*

*Remove existing buildings within envelope to ground level (if required) - TAU scope*

Both the clauses are contradicting, please clarify.

**EMPLOYER RESPONSE:**

The actual requirement is:

*TAU will remove existing buildings. Contractor must undertake all other civil works required to provide the level concrete paved surface, at least 100 mm in depth, across the whole BESS envelope site (~340 m2)*

SEE Employer Notice 2.

**35. BIDDER QUESTION**

It is mentioned BESS capacity of

1. 3 MWh@BOL.
2. 2.4 MWh @ 5 years.
3. 1.8MWh@10 years.

However we request you to share allowable degradation curve.

**EMPLOYER RESPONSE:**

Allowable degradation is linear through the specified points.

**EMPLOYER NOTICE 2:**

Under Employer Requirements, Table 6-1, the fifth item is amended as follows:

“All other civil works (including filling of water tank ~~if required~~)”

That is, the water tank is required to be filled.

In drawing CIRES-006-03\_Power Station BESS Envelope, the drawing note is amended as follows:

“Notes:

1. Contractor must include civil works to provide a cleared concrete pavement over the entire envelope (\*340 m<sup>2</sup>). This includes ~~removal of existing buildings and draining /~~ filling of the tank...”

That is, TAU will remove existing buildings but the contractor must undertake all other civil works.



Tangi Tereapii  
Director  
Renewable Energy Division  
Office of the Prime Minister