

All communications should be addressed  
To The Permanent Secretary  
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In reply please quote  
No:.....

## REPUBLIC OF ZAMBIA OFFICE OF THE PRESIDENT

PROVINCIAL ADMINISTRATION  
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### RESPONSES TO QUERRIES 2

**Question: 1:** What is the facility mainly used to store, vegetables, fruits or meat? Could you advise the main types of agricultural products?

**RESPONSE:**

The desired solar powered cold storage facility will be used for storage of vegetable and horticultural products.

**Question: 2:** The facility will be used to store the veg, fruit or meat for a short period and then transport to other places, or store for a long time.

**RESPONSE:**

The stored products will be stored with view to transportation to the market. This storage shall most likely not be for a long time.

**Question 3:** Could you advise whether the facility is only off-grid, do we need to reserve Zesco power connection for the facility?

**RESPONSE:**

The location of the FLIS sites are off grid areas. Therefore, it is proposed that the storage facility shall work on solar energy.

**Question 4:** Can we use 450W or 550W solar modules to replace the 250W modules?

**RESPONSE:**

The 450W or 550W solar modules can be used, provided the total facility electric power and quality is not compromised.

**Question 5:** For the "6.5 Kwp with power storages capacity of 16,100 Wh", which kind of battery would you like, Gel, Lead acid or lithium batteries

**RESPONSE:**

A long lasting and easier maintenance battery is preferred.

**Question 6:** According to your requirement, the throughput storage up to

10,000Kg/cycle, could you advise the time requirement for one cycle?

**RESPONSE:**

Time requirement will depend on crop type

**Question 7:** For the "The machine stores ice when most convenient", do we need to reserve an independent space to store ice in the containers.

**RESPONSE:**

Refer to response for question 9 in earlier set of questions

**Question 8:** Can we use variable-frequency Fans to meet the requirement of two kinds of air speed?

**RESPONSE:**

Refer to response for question 8 in earlier set of questions

**Question 9:** For the "1,200 liters of Heat Transfer Fluid", what is the purpose of Heat Transfer Fluid? Is the figure(1200L) correct? Is it for one facility or 21 facilities?

**RESPONSE:**

Refer to response for question 8 in earlier set of questions

**Question 10:** Can we replace the ABB sinusoidal inverters, ABB PLC digital system control with other brands of the same quality.

**RESPONSE:**

Yes, Refer to response for question 8 in earlier set of questions

**Question 11:** For the "Filter", could you explain the purpose of the Collection Center, is it included in the containers or a independent facility? "the capacity of filter is 1L per second" , is it correct?

**RESPONSE:**

Refer to response for question 8 in earlier set of questions

**Question 12:** Could you consider to extend the bid submission date, there are some technology issues need to be clarified and communicate with the manufactures.

**RESPONSE:**

If there will be any need to extend submission date, it will be communicated accordingly

**Question 13:** For crop storage, the operating temperature is 24-26 degrees celcius

according to refrigeration standards, and this is okay for a 24 hour operation using the given 16.1kWh on storage. But the required 0-15 degrees celcius is way below the standard required temperature for crop storage and will require up to 100kWh of storage on the battery side. Kindly clarify on this part.

**RESPONSE:**

The desired solar powered cold storage facilities (No. 21 in total) are for the purposes of preservation of crops and horticultural products. These horticultural products thrive optimally at varying temperatures e.g. peppers 13°C, tomatoes 15°C, oranges 5°C. Therefore it is desired that the solar cold storage facility should provide the versatility of being able to be set according to the available horticultural product at the time.

The earlier responses/clarifications are on the website [www.ziflp.org.zm](http://www.ziflp.org.zm)

**Question: 14:** In the tender document, 10,000 kg/cycle throughput is mentioned for 20ft solar cold storage.

Please clarify the duration of **one cycle** in hours / days.

The cycle duration is not clear as 10,000 kg/day throughput on off-grid systems will require much larger solar panels and would make the system costing non practical. If the cycle duration is 10 days and 1000kg/day is cooled through the solar cold storage, the operations will be simpler, less costly and much more efficient in an off-grid environment. Please suggest if such a design would be feasible.

**RESPONSE:**

Thanks for seeking a further clarification on this issue. At this stage it is difficult to give the exactly duration of one throughput cycle. The cycle shall depend, among other variables, crop type, production and market demand. For now, prospective bidders are advised the desired solar cold facility shall be expected to the requested basic parameter such has storage capacity and purpose, as well warrant provisions.

**Question: 15:** In the tender document, temperature requirement of 0C to 10C is mentioned for the cold storage. For fruits and vegetables storage, 2C to 15C is a more practical range . Below 2C there is a very high chance of chilling injury in the case of the majority of fruits and vegetables. Please inform that a solar cold storage facility which is able to maintain temperature in the range of 2C to 15C, is acceptable.

**RESPONSE:**

The desired temperature range is 0°C to 15°C. If the solar powered cold storage facilities you manufacture are of operating temperature range of 2°C to 15°C, you can still submit your bids since the temperature deviation is not so significant and can accommodate a wider horticultural and vegetable products.

**Question 16:** Your specifications call for a specific solar solution, which is outdated. • It asks for ABB inverters, which no longer exist (ABB sold it's solar business off to a company called FIMER over a year ago). Furthermore, it asks for ABB sinusoidal inverters, I assume

you actually mean true sinewave (otherwise you can have a poor sinusoidal shape via PWM, which will end up destroying equipment over time due to the "choppy" nature of the waveform, nevertheless it is still sinusoidal. **Are you open for alternatives?**

**RESPONSE:**

The improved designs or brands are acceptable as long as the facility shall be able to meet the desired purpose and quality is not compromised, and does not lead to extra costs.

**Question 17:** We have noted concern that ERB Solar Certificate is not included as part of the requirements. We therefore bring to your attention that the same be included as part of the requirements in accordance to the Energy Regulation Act, 2019 (Act No. 12 of 2019).

**RESPONSE:**

Bidders will be required to submit the ERB Solar License. An Addendum will be issued to amend the requirement in the bidding document

A handwritten signature in black ink, appearing to be 'M. B. ...', written over a horizontal line.

Head Procurement and Supplies Unit  
For/ Permanent Secretary  
Provincial Administration, Eastern Province