

## TEQIP-III

### Approval of Resolution by circulation on 27.4.2019

#### Approved by following members:

1. Mr Ravi Sinha	Chairman
2. Mr. Rajiv Sinha	Member
3. Dr. Vijay Kumar	Member
4. Prof. P. K. Kalra	Member
5. Prof. S. P. Gupta	Member (AICTE Nominee)
6. Prof. A.K. Saxena	Project Director, TEQIP
7. Prof. D. Bhagwan Das	TEQIP Coordinator
8. Prof. Rahul Swarup Sharma	Procurement Coordinator
9. Prof. K. Hans Raj	Member Secretary

The following items were considered for approval:

1. Extension of existing control room/lavatory (28'x29') (From Civil Works head) - Rs15,00,000.
2. Change of item in procurement plan from Transmission line protection system to 6kW/40kWh Flow Battery - Rs 10,00,000

Justification:

1. There is requirement of a control room for accommodating the solar inverter, batteries which also serves the purpose of a living laboratory for renewable energy experiments and projects. The room is supposed to be provided by Faculty of Engineering as there is no provision of civil work in DST R&D project. There is an existing control room/ lavatory of another 50kWp solar plant near the project site which can be extended to accommodate the inverter and batteries of the present project also. Administrative approval for the same has already been obtained from the Institute. Funds for the item can be drawn from TEQIP under Civil Works head where 50 lakhs are allocated.

Resolved that the extension of existing control room is approved and necessary funds from the TEQIP-Civil Works be used for the same.

2. It is proposed to procure Vanadium Redox Flow Battery which will be used in conjunction with the Lead Acid battery bank. Flow batteries are considered the best among all storage technologies and so far there are only 2 installations in India- BHEL(R&D) Hyderabad and IIT Bombay.



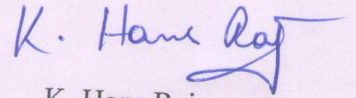
K. Hans Raj

Cost of these batteries is almost at par with Li-ion while the expected life is 25 years with no limitation of charge-discharge cycles (warranty period 10 years). Moreover, Vanadium based electrolyte is completely recoverable after the useful life and resalable. The battery, if procured, will be a valuable addition in the project and would also help our students in getting practical knowledge about the same. There is a manufacturer in India who has supplied it to IIT Bombay and has quoted very reasonable price for Flow battery. Rs. 10 lakhs were earlier earmarked for purchase of Transmission line protection system where, an in-house protection facility for Transmission Line will be developed. Hence, these funds can be utilized for procurement of Vanadium Redox Flow Battery instead of Transmission line protection system.

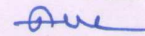
Resolved that purchase of Vanadium Redox Flow battery is approved against the funds allocated for Transmission line protection systems.



Ravi Sinha  
Chairman, BoG



K. Hans Raj  
Member Secretary



**K. Hans Raj**  
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