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TO: Adonis Bwashi
FROM: Wesley Stites, Department of Chemistry & Biochemistry
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SUBJECT: Award of liquid helium recovery system to Cryomech

Here are what we see as the key issues.
First, Quantum Design is much higher in cost than the other two bidders and we rule it out on that basis. The price difference between Quantum Technology and CryoMech is much less, with Quantum Technology being the apparent low bidder. However, we believe that CryoMech is the lowest qualified and preferred bidder for the following reasons.

Under the "Size and Form/Infrastructure Constraints" on page 6 of the bid solicitation we indicated a need for water cooling to avoid dumping heat into the small room the equipment will be housed in. CryoMech uses water cooling system on both Helium compressor and recovery compressor. Quantum Technology use water cooled in Helium compressor but the recovery compressor is air cooled. This is clearly very undesirable.

Under the "System Capabilities, Capacities, Control, and Connectivity" on page 6 of the bid solicitation we stated that "vendor must provide additional cold trap/s and adsorber". This will allow us to prevent down time for the whole system. The additional cold trap and absorber will be used while another is regenerating. The CryoMech quotation clearly states an additional cold trap and adsorber will be provided. The Quantum Technology bid indicates only one cold trap and absorber to be provided. This is disqualifying.

The delivery time of CryoMech is 140 days and Quantum Technology is 180 days. The 40 days delay will cost department more than $2,000 for liquid Helium purchases. This negates much of the putative price difference. Further, we must spend the ABI grant money available for this equipment by the end of May and award to Quantum Technologies would likely result in us not having funds available for the purchase.

Other considerations: The CryoMech system provides more helium gas storage capacity. More gas storage capacity will be beneficial when liquid helium refrigerator is down for maintenance or failure. More storage capacity will provide additional time to correct failure without venting helium gas. The CryoMech system has ~75 Liters Liquid Helium equivalent of gas storage; the system comes with 4 medium pressure storage tanks, each tank can store ~16 Liters of Liquid Helium equivalent and gas bag can store additional ~11 liters of Liquid Helium equivalent. The Quantum Technology system storage is listed ~ 40 Liters of Liquid Helium equivalent. Further, the CryoMech system has a higher capacity of refrigerated liquid produced per day. These factors greatly increase the desirability of the CryoMech system.

We conclude that Cryomech is the preferred and only qualified bidder and should be awarded the purchase order.