**Charge to the Committee**

A recent assessment made clear that, at least in the near term, the average demand from Hall B for computing is greater than the projected requests. This demand is also greater than the available resources and would imply expanding computing for Jefferson Lab.

The reasons for the increase of the data acquisition rate have to be understood, as it would imply a large annual computing investment, but also may put at risk the capability to analyze the huge volume of data collected towards expedient science publication.

An internal software review has been set up to evaluate the Hall B computing projection and actual software architecture and performance, and to evaluate the organization in place to realize physics results. The committee is asked to review and assess the status of Hall B software and computing with particular emphasis upon:

a) the CLAS12 computing architecture;

b) the requirements for computing and the operational readiness of CLAS12

c) the requirements for expedient physics analysis and publication;

d) the state of the CLAS12 Software and Computing Organization, including roles and responsibilities and connections to external groups

In particular, the committee is asked to address the following questions:

1. Evaluate the CLAS12 computing architecture.
   1. Assess the offline computing plan, including descriptions of the workflows and processes for calibration, reconstruction, simulation and analysis.
   2. Are the CLAS-12 computing requirements including simulation and the impact of backgrounds well understood and motivated by physics considerations? Are the estimates stable?
2. Evaluate the requirements for computing and the operational readiness of CLAS12.
   1. What is the status of the DAQ system and online monitoring? Are all operational requirements met by the current system? Has CLAS 12 and Hall B identified gaps and risks? If so, what are the plans to address them?
   2. Has all relevant hardware (including spares) been procured?
   3. Does the analyzer make good use of the multithread computing architecture, and how has this been validated?
   4. What lessons have been learned from the spring 2018 run? From MC campaigns? Are scale test planned in preparation for 20+ weeks of running? What are the limiting factors for detector calibration?
   5. Assess the plans for data quality tests and impact on data acquisition and computing at high luminosities.
3. Evaluate the CLAS12 Software and Computing towards readiness for extraction of physics from the data and expedient publication.
   1. Has the analysis chain been defined and what is the strategy for extracting physics from the data? How are the requirements of the 13 experiments that are part of Run Group A coordinated and how are decisions on priorities taken? Provide a road map with trackable milestones.
   2. What is the anticipated duration for the data processing of the FY18 data taking? (VZ)
   3. Are the simulations in line with the data? Show the comparison of the data collected so far with the projected results for the 13 experiments of Run Group A.(3c)
4. Assess the state of the CLAS12 Software and Computing Organization, including roles and responsibilities and connections to external groups
   1. How is software and computing proactively managed?
   2. Have all important roles been identified? Are there clear lines of accountability in CLAS12 for software and computing?
   3. What is the interplay of Hall B staff and CLAS 12 collaborators for software and computing responsibilities? Are there any gaps in responsibilities? If so, what is the plan to address those gaps?
   4. Are DAQ and offline computing adequately staffed? Have risks associated with operationally critical roles been identified and addressed?
   5. Present the status of in-kind contributions of computing resources from CLAS12 collaborating universities and other institutions. How are these managed and integrated in CLAS12 software and computing?

We also request the committee to comment on any considerations relative to the needs for computing for the 12 GeV program as a whole. Do the resource requirements for CLAS12 cause any cost considerations or other concerns? Prioritize the concerns with respect to the needs to respond to the 2017 S&T review recommendation to submit a plan for 12 GeV Computing.