Dr. Hugh Montgomery Thomas Jefferson National Accelerator Facility 12000 Jefferson Avenue Newport News, VA 23606

24 October 2013

RE: Accelerator Readiness Review, Phase 1B

Dear Dr. Montgomery:

The Accelerator Readiness Review (ARR) team for the CEBAF 12 GeV Upgrade project visited Jefferson Laboratory in August 2012 to review the status of the project at that time and prepared a report summarizing findings, opportunities for improvement, and other comments from our visit. This visit has been designated the CEBAF Phase 1A Review.

The ARR team was invited back in October to review the progress made in response to the ARR Phase 1A report. This second visit has been designated the CEBAF Phase 1B Review. The team again performed a performance based review including visits to relevant areas of the laboratory, and discussed a range of technical issues, processes, policies, and procedures with members of the JLab staff.

The Phase 1B review was focused primarily on the JLab response to the findings of the Phase 1A report and included walkthrough inspections of the new equipment and facilities and several observations of field work in progress. A report summarizing this Phase 1B review is being prepared and will be sent to you under separate cover.

The ARR Phase 1B team found that this project is ready for beam commissioning with a full duty cycle (CW) beam in the injector or with a low power tune mode beam directed to the 2R dumplette, pending final closeout of remaining installation tasks. The JLab 12 GeV project team demonstrated that its Hot Checkout and associated processes for managing the remaining work are well developed and comprehensive. The team supports initiation of this commissioning activity upon completion of the following prestart actions:

- 1. The Hot Checkout process should be completed for the remaining items needed for these initial modes of operation.
- 2. The applicable items in the ATLis system should be closed.
- 3. The ABIL list of bypassed interlocks should be checked to ensure that all applicable items are understood and resolved as appropriate.

The committee strongly recommends that JLab management work with the DOE Site Office to expedite the approval for these modes of operation.

Preparations for multi-pass operation are nearing completion. The ARR team observed that all credited safety systems are in place for multi-pass operation to any of the dumplettes in tune mode. The remaining hardware items are well defined and the work is progressing. The team endorses multi-pass operation following completion of these remaining items.

The committee therefore recommends that the internal processes listed above be used for managing the remaining work, and that approval to commence multi-pass operation be granted by JLab management and the DOE Site Office upon receipt of documentation that the preparations have been completed. The ARR Team recommends that the JLab management and the DOE Site Office review for approval a joint statement by designated representatives of the JLab management and the DOE Site Office to accomplish this purpose.

The ARR Team was impressed by the thorough and conscientious response of the JLab staff to the findings of the ARR Phase 1A report. We would like to thank the JLab staff and management for arranging walkthroughs of the facilities, performance based demonstrations of the work management tools, and their thorough responses to our questions. We welcome the opportunity to contribute to this very impressive research project.

Best regards,

Roger Erickson, SLAC - Chair

lan Evans, SLAC

Harry Fanning, JLab

Jim Floyd, LBNL

Dennis Parzyck, Consultant

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Robert May, JLab