

Recommendations from the Report of the JLab Director's Review of the Commissioning Plan for the 12 GeV Upgrade held on June 6 - 7 2013

- **R1: Consider rescheduling the ARR to a time when a majority of the hardware and software has been hot checked and the operators have been trained.**
- **R2: Consider increasing the ARR Team membership with the appropriate experts.**
- R3: Similarly to machine operators, there are often multiple physicists in the control room during commissioning. Thus, for each commissioning shift there should be a "Head Physicist" assigned to interface their activities with the Crew Chief and the accelerator operators.
- R4: If the beam goals in the time period of November-December 2013 go beyond the "one turn test", then the August ARR needs to include the extended commissioning goals hoped for in December.
- R5: Specify which accelerator activities are included in the August ARR and which in the January ARR.
- R6: A measurement plan for radiation losses should be made so that measurements can be compared with radiation loss calculations.
- R7: At the 12 GeV beam energy muons are about two times more penetrating than at 6 GeV, which leads to higher doses. Investigate during the commissioning the radiation protection issues of these higher doses.
- R8: Expand, document, and catalog the hardware checkout procedures.
- R9: Consider resource loading the HCO workload schedule (once it is generated) to determine man-hours required and labor cost.

CAB discussions and meeting on July 2 (Harwood, Spata, Pilat, Poelker + May, Freyberger): consider R1 and R2 and concur on course of action (recommendation to Mont and the planning Team)

Alternatives:

- Focus the ARR Review on purely safety topics, hold it in August 2013, and address operability issues (systems, software, etc) in October with an independent Review
- 2-stage ARR Review: part 1 in August focused on safety topics with a follow up meeting in October, and with a subset of the ARR Committee to look over operability issues. We will not preclude being ready for signature in August.

The Committee (almost) concurred on the second option for the following reasons:

- The HCO process is to start mid September, too late for the August review
- Although we will work towards being in a position to obtain signature in August, if further work is needed, there is a process in place to obtain signature in October
- We will have in October a Review Panel to follow up on safety issues and to review operability issues that is external and internal, and already familiar with the CEBAF accelerator
- The October part of the Review can be framed as "closeout" or "preparation for Phase 2" ARR