

eRHIC R&D Advisory Committee

Charge

The ad-hoc EIC Cost Review Committee convened by NSAC in January 2015 and chaired by Ed Temple reached the following conclusions when considering the project design described in the 2015 eRHIC Design Study:

- *The proposed eRHIC design will work if the unproven or demanding technical components can be shown to meet the demanding technical specifications.*
- *The design presents both technical and costs risks and will require substantial R&D to be proven reliable and cost effective.*
- *The sub-committee believes the resources required to demonstrate component successes at the performance levels required to begin production have been seriously underestimated both at the ongoing pre-project level and the \$20M on-project level. The cost estimate was considered reasonable for the well-understood technical and civil components.*

In order to address these issues the eRHIC Advisory Committee is asked to consider both the eRHIC baseline design and the associated R&D program as currently conceived and presented and answer the following questions:

1. Can the present baseline design be staged with reduced risk in the first phase while maintaining an upgrade path to the full capability?
2. Are there alternate designs that should be considered? if so, with what priority?
3. Does the current R&D plan, if successful, adequately address the technical concerns (risk) raised during the NSAC cost review?
4. Is there a clear timeline with technical milestones for this R&D plan? Are there logical on/off-ramps for the various technical options?
5. Are the available resources and associated schedule credible?

The Advisory Committee will be a standing committee and convene three times per year for the duration of the R&D program. The Committee should prepare a short close-out for C-AD management at the end of each meeting and provide adequate information for its Chair (M. Harrison) and the ALD for Nuclear and Particle Physics to be prepared for a longer discussion about the status of eRHIC R&D with the BNL S&T Steering Committee.