

eRHIC Bi-Weekly Status Report

September 18, 2017

Recent Developments:

- A meeting of the National Academy Reviewers of the EIC took place on September 11-12 in Woods Hole, MA. The National Academy review team has been gathering information and reviewing the work that they have done so far. They are planning to have their full report ready by the end of December 2017, send it out for comments during the month of January, submit the report in February, and officially release it in March, 2018.
- eRHIC pre-conceptual work is progressing. Status on progress by individual contributors is reviewed each week to ensure that the work stays on schedule. That status shows that progress is falling behind. To mitigate the delay of the technical layout, some of the design parameter and specification development are now accelerated and the number of iterations on design optimization has been reduced to improve the delivery expectation.
- The NPP Directorate held its second strategic planning retreat on September 8, 2017. The retreat focused on exploring the future challenges within the Directorate, including our highest priority - the RHIC to eRHIC transition. Several transition scenarios were developed by small teams and discussed with larger groups. A third retreat will be held within the next two months to follow-up.
- Registration closes on October 1 for the EIC Accelerator Collaboration Meeting, which will take place October 10-12, 2017 at BNL. To date, ~80 individuals have registered for the meeting, which will bring together accelerator scientists and engineers from JLab, BNL, and other national and international laboratories who are participating in the US EIC accelerator design work and corresponding technology developments. More information can be found at <https://www.bnl.gov/eiccm2017/index.php>.
- The next Collider-Accelerator Department (C-AD) Machine Advisory Committee meeting will take place on October 25 - 27, 2017. The focus of this meeting will be beam cooling for RHIC and eRHIC.
- The C-AD staff planning efforts are on track for the delivery of a first C-AD staff requirements report by the end of September 2017. A first pass of staffing data for both projects and operations for FY2018 was gathered and entered into the system. Group leaders and project managers are engaged as we verify information and review preliminary reports. Accounts for FY2018 charging are being reviewed to ensure that they reflect the new structure, which focuses on where the work is done. This effort is underway to provide C-AD group leaders and managers with tools to help them to plan and prioritize work.
- Discussions continue on the maturation of an eRHIC organization, which will help to ensure successful delivery of the pre-CDR, preparation for a DOE CD-0, and the subsequent work towards CD-1.
- The next Bi-Weekly eRHIC Coffee Break will be on Thursday, September 21 in the Physics Lounge (Building 510). Please join us at 3:30 p.m. and encourage others interested in eRHIC to attend.

Issues:

- Early preparations are underway to assemble a team to review the eRHIC accelerator concept in the Spring of 2018. Plans also need to be made on how best to review the status of the eRHIC science vision.
- The President's Budget Request (PBR) for FY2018 creates many uncertainties with significant implications on future plans and priorities. Encouraging developments are that the House budget

mark for the DOE Office of Science proposes a budget that is flat with FY2017 appropriations and the Senate budget mark even advocates for a 3.0% increase.

- An eRHIC pre-conceptual design organization and a management approach for matrix personnel needs to be finalized, approved, and communicated to relevant parties.
- Strategies will need to be developed for enlarging support for an EIC both within NP and within the broader science community.
- The European strategy for particle physics is starting and attention has to be paid regarding how to integrate EIC into this process.
- Additional strategies for CBETA cost/risk treatment need to be confirmed by the BNL/Cornell Project Oversight Board.
- The ability of the NPP Directorate to successfully manage and complete the sPHENIX project is important to demonstrating to the DOE Nuclear Physics Program that we can successfully complete mid- to large-size construction projects. We need to support a successful sPHENIX CD-1 DOE Review in FY2018.

Major Near-Term Milestones:

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| • National Academy of Sciences Study | 2017 |
| • National Academy Panel Report | Spring 2018 |
| • eRHIC Pre-Conceptual Design Report | March 2018 |
| • eRHIC Pre-Conceptual Design Review | April 2018 |
| • Ready for CD-0 Mission Need decision of EIC | June 2018 |
| • Anticipated CD-0 (Mission Need Determination) | Late 2018 |

Calendar:

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| • eRHIC Bi-Weekly Coffee Break – 3:30 p.m. in the Physics Lounge (B510) | September 21, 2017 |
| • Full day eRHIC Program Steering Group Meeting | September 25, 2017 |
| • First C-AD Staff Planning Report Available | September 30, 2017 |
| • EIC Accelerator Collaboration Meeting (at BNL) | October 10-12, 2017 |
| • C-AD Machine Advisory Committee | October 25-27, 2017 |
| • ½ day eRHIC Program Steering Group Meeting | October 26, 2017 |
| • Full day eRHIC Program Steering Group Meeting | December 11, 2017 |

eRHIC SharePoint Site:

- Copies of these Bi-Weekly Reports and other information about eRHIC are located on the eRHIC SharePoint site <https://brookhavenlab.sharepoint.com/sites/eRHIC/SitePages/Home.aspx>. If you have trouble accessing this site, please contact Alyssa Petrone at apetrone@bnl.gov or x7735.

Link for the EIC Energy Assessment Paper (BNL Formal Report (BNL-114111-2017)):

- See <https://arxiv.org/abs/1708.01527>