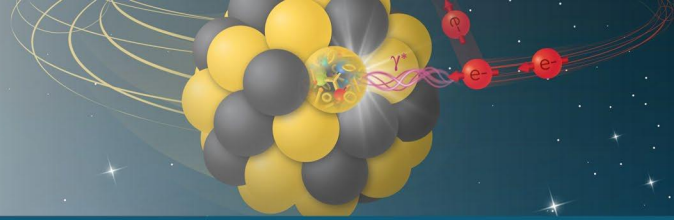


Electron-Ion Collider



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Date: October 9, 2024

To: N. Sereno (Chair), R. Baron, S. Cogan, J. Mead, R. Singh, D. Taveres

From: Kevin Smith, EIC Deputy Technical Director

Signed by:

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10/9/2024

Subject: Charge for EIC HSR Beam Position Monitor Electronics PDR

The Electron-Ion Collider (EIC) is a major facility, fully international in character, being designed and built at the U.S. Department of Energy's (DOE) Brookhaven National Laboratory (BNL) in partnership with the Thomas Jefferson National Accelerator Facility (Jefferson Lab). An upgrade to the existing RHIC facility beam position monitor (BPM) system is planned in preparation for the transformation of the existing cryogenic ring into the EIC Hadron Storage Ring (HSR). This upgrade includes installing new BPM electronics that will process signals from the new warm BPM pick-ups and cryogenic BPM pick-ups.

We are now prepared to proceed with the Preliminary Design Review. This review will focus on the evaluation of our readiness to proceed with a final design. An FDR will occur later when we are prepared to proceed with the fabrication of the HSR BPM electronics.

We would appreciate your assistance in assessing our technical design maturity and readiness to proceed with the final design phase. The committee is asked to respond to the following charge questions:

1. Are the HSR BPM electronics system performance requirements sufficiently mature, understood and documented for this phase of the design?
2. Does the HSR BPM electronics preliminary design meet the requirements?
3. Are the HSR BPM electronics interfaces sufficiently defined, understood and documented for this phase of the design?
4. Are the design analysis, simulations, drawings and specifications, and work plans, sufficient for this phase of the design?
5. Have the risks, including technical and safety risks, been identified, and are mitigation plans adequate for this phase of the design?
6. Are the quality and acceptance plans adequate for this phase of the design?
7. Is the overall design maturity sufficient to proceed with the final design phase?

We would appreciate receiving the committee's report within 14 days of the review's conclusion.

cc: V. Ptitsyn, D. Gassner, T. Russo, K. Smith, S. Nagaitsev, A. Seryi, J. Yeck