

eRHIC IR Design Meeting

Draft Minutes for Friday, January 17, 2019

Agenda

1 Path forward—F. Willeke	1
2 Detector yellow book—Elke	2
3 Near term focus—H. Witte	2
4 SynRad simulations for Scott’s [J.S. Berg’s] January [2020] lattice—C. Hetzel	2
5 Next Meeting	3
5.1 Draft Agenda	3

1 Path forward—F. Willeke

1. Need clarification from DoE:
 - (a) What is the project’s scope? Will it be staged with low lumi. version?
 - (b) Don’t expect to be staged with low energy version as it would not provide significant cost savings.
 - (c) Should continue to design IR for full energy. Don’t expect IR to be staged even if the larger project is.
 - (d) Not yet clear what role JLab will play. They may be involved with the IR in some capacity, but don’t know yet.
2. Starting to prepare independent project department.
 - (a) Need to recruit personnel, mostly from other departments.
 - (b) HR is working on setting up account codes etc.
 - (c) W. Christie: What is the time scale for updated cost estimate and CDR?
 - i. Late April.
 - (d) Plan to have department setup by April 1.
 - (e) HR will do a one time transfer of personnel to the EIC project department without opening new positions, but this will not include anyone from NSLS-II.
3. R. Palmer: What is the scope with regard to the number of IRs/detectors?
 - (a) Currently just one detector in the budget.
 - (b) Don’t think we’ll be able to get a second IR into the budget.
 - (c) Continue to focus on just IR-6, but will need dynamic aperture simulations for a straw-man IR-8 design.

2 Detector yellow book—Elke

1. Physics studies will use current IR for now. Will document what the design does and doesn't do.
 - (a) Won't look into alternatives or second IR until after reviewing physics simulation results during meeting at Temple in April.
 - (b) Working with Julia (from JLab's group).

3 Near term focus—H. Witte

Title: "Plan moving forward"

File: [2020-01-17_PathForward.pdf](#)

1. Need to resolve Q1ApR issue [slide 7].
2. Items under "Work we need to complete" [slides 3–6] need to be done by April.
 - (a) Will need to go through the Change Control Committee.
3. W. Christie: Suggestion to identify interfaces between systems in advance of CDR and CD-1 review to demonstrate that the scope is understood.

4 SynRad simulations for Scott's [J.S. Berg's] January [2020] lattice—C. Hetzel

Title: "IR meeting - Vacuum 1-17-20"

File: [IR meeting - Vacuum 1-17-20.pdf](#)

1. "Be exit" [slide 2] refers to the power exiting the beryllium section of beam pipe inside the detector.
2. Plot on slide 2 shows
 - (a) results presented at last week's meeting (dashed curves) and
 - (b) new results for Scott's [J.S. Berg's] January [2020] design proposal (solid curves).
3. Proposed lattice has less power absorbed in Be section.
4. Proposed eF design is better for SR than current design.
5. How many sigma should SynRad simulations look at?
 - (a) F. Willeke: Should use more accurate (non-Gaussian) beam profiles rather than going out to higher and higher sigma for Gaussian approximation.
 - i. C. Montag: Could try approximating main beam and tail as separate Gaussians, but this still wouldn't account for beam-gas.

5 Next Meeting: Friday, January 24, 2020 from 2:30 to 3:30 p.m.

5.1 *Draft Agenda*

1. Physics simulation update—Friends from Physics
2. Update on eR lattice—J.S. Berg
3. Transverse electron tails—C. Montag
4. All other business
5. Next Meeting: Friday, January 31, 2020 from 2:30 to 3:30 p.m.