

## 2020 Pre-CD1 Director's Review of MOLLER

### CHARGE with Committee Answers

The MOLLER experiment was approved by the Jefferson Lab PAC in 2009. There was a successful Science Review convened by DOE-NP in 2014. A Director's Review was held in 2016 to assess the conceptual design and provide advice on pre-project planning and development. MOLLER received DOE CD-0 "Approve Mission Need" in December 2016, which was followed by a pause due to lack of funding. In anticipation of a project restart, a Director's Review was held in 2019 to assess the progress of MOLLER towards CD-1. The project has made significant progress in anticipation of a DOE CD-1 review in September 2020. We would like this Director's Review to assess the readiness of the MOLLER project for the anticipated DOE CD-1 review.

In carrying out your review of the MOLLER Project, please evaluate whether the project is ready to move to the next stage of preliminary design towards CD-2. In so doing, please respond to the following questions:

1. Science Basis: Is the MOLLER conceptual design capable of achieving the scientific goals of the experiment? **Yes**
2. Conceptual Design: Is the MOLLER conceptual design sound, achievable and sufficiently defined to meet the specified technical requirements? Are technical risks properly identified and are appropriate mitigation strategies in place? **Yes, Yes**
3. KPP: Are the proposed Key Performance Parameters (KPP) appropriate for determination of successful project completion? **Yes, assuming that the remaining TBD in the KPP table is resolved prior to the CD-1 review.**
4. Cost and Schedule: Are the cost and schedule estimates credible for this stage of the project and mature enough to establish the cost range for the project? Do they include adequate scope, cost and schedule contingency? **Yes, although there is some concern regarding the cost range and schedule contingency. See the comments in the review report**
5. Management: Is the Project being properly managed at this stage? Is there a capable team in place to effectively manage risks and develop a robust baseline in the next phase? **Yes, Yes, however see comments in the review report.**
6. ES&H: Is ES&H being properly addressed given the project's current stage of development? **Yes**
7. CD-1 Requirements: Has the project met all the prerequisite requirements for CD-1 approval? **Yes, although improvements can be made in the documentation prior to the CD-1 Review. See the review report.**
8. Previous reviews: Has the project team responded appropriately to recommendations from prior Reviews? **Yes**