**Jefferson Lab Accelerator Advisory Committee Charge (DRAFT)**

**March 8 to 10, 2023**

The JLAAC is asked to assess the major elements of the laboratory’s accelerator operations and research activities.

1. CEBAF is continuing its run focusing on the 12 GeV Science. The CEBAF Performance Plan project is underway, including cryomodule refurbishment, and efforts on plasma processing. The CPP Energy Reach may practically allow only two CM installed (one C100R and one C75) per Scheduled Accelerator Downtime.

*Please assess progress in 12 GeV CEBAF Operations generally, and specifically comment on our plan for reaching the appropriate energy using a combination of CM refurbishment, C75 program, as well as plasma processing in tunnel. Also comment on the development of future RF power options, such as SSA and magnetrons.*

1. The EIC project is moving towards CD3A and CD2. JLab is the major partner in EIC, contributing to and leading a variety of WBS elements.

*Please assess and comment on JLab EIC activities and progress.*

1. JLab is developing the options for potential future CEBAF upgrades that can continue to provide compelling NP science in the EIC era – the positron capability followed by the 22 GeV energy upgrade. The two upgrades will be sequential and will use in a synergistic way the LERF which will house e+ source and then the 650 MeV injector.

*Please assess the progress on developing the FFA-based ~22 GeV CEBAF upgrade as well as the progress in developing a positron capability for CEBAF.*

1. The laboratory has a number of accelerator R&D initiatives underway in superconducting RF, energy recovery linacs, high-current polarized photo injectors, AI/ML, and so on. The UITF has recently performed high-energy polarimeter study. Record gradients been demonstrated for single cell conduction-cooled SRF cavity.

*Please assess the progress in R&D activities, indicating opportunities for enhancement of the lab’s scientific impact in a paradigm of a multi-program national laboratory.*

1. Accelerator education efforts have recently enhanced due to the funded graduate and undergraduate traineeships connecting JLAB with ODU, NSU and HU.

*Please assess our plans to expand the accelerator science and in particular engineering education, if possible indicating opportunities for further enhancements.*