

## **Fermi National Accelerator Laboratory**

Date: June 8, 2020

**To:** Doug Glenzinski, Chief Project Officer

From: Nigel Lockyer, Director

Re: Director's CD-3c Review of HL-LHC Accelerator Upgrade Project

## Message:

Please organize and execute an assessment on July 28-30, 2020 that will determine the readiness of the HL-LHC Accelerator Upgrade Project (AUP) to proceed to CD-3c for the approval to continue production of MQXFA Magnets, RFD Dressed Cavities and LMQXFA Cold Masses. The assessment should address the following questions:

- 1. Is the proposed scope of the CD-3c work clearly defined and complete?
- 2. Are the need, technical justification, and schedule justification clearly articulated and sufficient to support the activities identified for the CD-3c scope?
- 3. Are the relevant designs technically sound and sufficiently mature and have the appropriate reviews occurred?
- 4. Is the planning for major procurements, interfaces between the subsystems, and integration of the project adequate to proceed with the proposed CD-3c scope?
- 5. Is the baselined resource-loaded schedule still adequate to serve as the performance baseline for the CD-3c scope?
- 6. Have all risks relevant for the CD-3c scope been identified, and are the cost and schedule contingency adequate and commensurate with the risks relevant for the execution of the CD-3c scope?
- 7. Does the project understand its dependencies on outside resources such as international collaborators?
- 8. Are Environment, Safety, and Health and Quality Assurance aspects being handled appropriately?
- 9. Is the project appropriately responding to and planning for impacts from COVID19?
- 10. Is the required documentation complete at a level necessary for CD-3 and have recommendations from previous reviews been appropriately addressed?
- 11. Is the project being well managed, and is the project team being properly supported by the participating laboratories and Fermilab, in particular?
- 12. Is the project ready for approval of CD-3c?

The Committee is asked to present a draft of their answers to these charge questions and recommendations at the close of the assessment, and a final report within three weeks.

Nigel S. Lockyer

Director of Fermilab