



MQXFA04 Coils Acceptance Review

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US HL-LHC Accelerator Upgrade Project

MQXFA04 Coils Acceptance Review



MQXFA04

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1. Goal & scope

The HL-LHC AUP project is planning to start assembly of MQXFA04 magnet in November 2019. MQXFA04 is the second pre-series low-beta quadrupole (MQXFA) to be used in Q1 and Q3 for the High Luminosity LHC. If MQXFA04 meets MQXFA requirements [1] it will be used in the first Q1/Q3 cryo-assembly to be installed in the HL-LHC.

For MQXFA04 assembly AUP is planning to use QXFA coils 203, 112, 113, and 115. Coil 206 will be the spare coil. The reviewers are requested to assess that the 5 proposed coils and their conductor meet specifications [2], and to evaluate the impact of non-conformities in strands, cables and coils.

2. Charges

The committee is requested to answer the following questions:

1. Do the proposed coils meet MQXFA coil specifications [2]?
2. Are conductor/coil fabrication and QC data of the proposed coils adequate for a thorough evaluation and for allowing MQXFA04 to meet MQXFA requirements [1]?
3. Are there major non-conformities? If answer is yes, have they been adequately documented and processed?
4. Do you have any other comment or recommendation regarding conductor or coils for allowing MQXFA04 to meet MQXFA requirements [1]?



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3. Technical information

Committee

Steve Gourlay – LBNL, chairperson

Arup Ghosh – BNL, retired

Paolo Ferracin – CERN

Date and Time

October 30, 2019. Start time is 7/9/10/15 (LBNL/FNAL/BNL/CERN)

Location/Connection

Video-link by Zoom, info by email.

Link to agenda with talks and other documents

<https://indico.fnal.gov/event/22074/>

4. References

- 1) *Acceptance Criteria Part A: MQXFA Magnet*, US-HiLumi-doc-1103.
- 2) *MQXFA Final Design Report*, US-HiLumi-doc-948 sections 3 and 5.1.1; and *QXFA Coil Fabrication Electrical QA*, US-HiLumi-doc-521 step 16.