



MQXFA05 Coils Acceptance Review

US-HiLumi-doc-2742

Other:

Date: 1/6/2020

Page 1 of 4



US HL-LHC Accelerator Upgrade Project

MQXFA05 Coils Acceptance Review



MQXFA05

Coils Acceptance Review

US-HiLumi-doc-2742

Other:

Date: 1/6/2020

Page 2 of 4

TABLE OF CONTENTS

1. GOAL & SCOPE.....	3
2. CHARGES	3
3. TECHNICAL INFORMATION	4
4. REFERENCES	4



MQXFA05 Coils Acceptance Review

US-HiLumi-doc-2742

Other:

Date: 1/6/2020

Page 3 of 4

1. Goal & scope

The HL-LHC AUP project is planning to start assembly of MQXFA05 magnet in February 2020. MQXFA05 is the third pre-series low-beta quadrupole (MQXFA) to be used in Q1 and Q3 Inner Triplet elements for the High Luminosity LHC. If MQXFA05 meets MQXFA requirements [1] it will be used in a Q1/Q3 cryo-assembly to be installed in the HL-LHC.

For MQXFA05 assembly (including a spare coil) AUP is planning to use QXFA coils: 115, 116, 117, 207 and 209. Coil 115 was approved for use in MQXFA04 [2] and is assumed approved for use in MQXFA05.

The reviewers are requested to assess that coils 116, 117, 207, 209 and their conductor meet specifications [3], 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 coils under review meet MQXFA coil specifications [3]?
2. Are conductor/coil fabrication and QC data of these coils adequate for allowing MQXFA05 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 these coils and their conductor for allowing MQXFA05 to meet MQXFA requirements [1]?



MQXFA05

Coils Acceptance Review

US-HiLumi-doc-2742

Other:

Date: 1/6/2020

Page 4 of 4

3. Technical information

Committee

GianLuca Sabbi, chairperson, LBNL

Arup Ghosh, BNL retired

Susana Izquierdo Bermudez, CERN

Date and Time

January 29, 2020. Start time is 7/9/10/16 (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/22839/>

4. References

- 1) *MQXFA Functional Requirements Specification*, US-HiLumi-doc-36.
- 2) *MQXFA04 Coils Acceptance Review*, US-HiLumi-doc-2432.
- 3) *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.