



# MQXFA10 Structure & Shims Review

US-HiLumi-doc-4202

Other:

Date: Oct 8, 2021

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## US HL-LHC Accelerator Upgrade Project

### MQXFA10 Structure & Shims Review



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## 1. Goal & scope

The HL-LHC AUP project is starting the assembly of MQXFA10 magnet. This is the third series magnet of the MQXFA low beta quadrupoles to be used in Q1 and Q3 for the High Luminosity LHC. If MQXFA10 meets MQXFA requirements [1] it will be used in a Q1/Q3 cryo-assembly to be installed in the HL-LHC.

MQXFA10 coils were reviewed on September 8, 2021 [2].

MQXFA Series magnet specifications are presented in [3]. Discrepancy or Non-Conformity Reports are generated whenever a component does not meet specifications.

The goal of this review is to evaluate the MQXFA10 structure and shim plan. The reviewers are requested to assess that discrepancies and non-conformities of the magnet structure have been adequately processed, and that the shims will allow MQXFA10 to meet MQXFA requirements [1].

## 2. Charges

The committee is requested to answer the following questions:

1. Have discrepancies and non-conformities been adequately documented and processed?
2. If there are major non-conformities, have they been adequately documented and processed?
3. Are the proposed shims adequate for allowing MQXFA10 to meet MQXFA requirements [1]?
4. Have all recommendations from previous reviews [4, 5] been adequately addressed?
5. Do you have any other comment or recommendation to assure MQXFA10 is going to meet requirements?



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## 3. Technical information

### Committee

Peter Wanderer, chairperson (BNL)

Mike Anerella (BNL)

Susana Izquierdo Bermudez (CERN)

### Date and Time

Oct 8, 2021. 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/51311/>

## 4. References

- 1) *MQXFA Functional Requirements Specification*, US-HiLumi-doc-36.
- 2) *MQXFA10 Coils Acceptance Review*, US-HiLumi-doc-4186.
- 3) *MQXFA Series Magnet Production Specification*, US-HiLumi-doc-4009.
- 4) *MQXFA09 Structure & Shims Review*, US-HiLumi-doc-4183.
- 5) *Production Readiness Review of the HL-LHC AUP Series Structure Fabrication & Magnet Assembly: 302.2.07 & Review of Series Magnet Specifications*, US-HiLumi-doc-4005.