REPORT ON THE DISCUSSIONS OF THE FNAL MAGNET ACCEPTANCE COMMITTEE W/RESPECT TO LQXA08

The Fermilab magnet acceptance committee reviewed the data with respect to LQXA08. A summary of the comparison between the results and the criteria are presented in the summary table.

The magnet acceptance committee concludes the magnet is ready to ship.

LQXA08 (MQXA09) ACCEPTANCE CRITERIA SUMMARY

criteria	Description	status	resp. party	reported by
2.1.3	THERMOMETER AND WARM UP HEATER INSTALLATION	See note.	rb	rb
2.1.4	BUS WORK CHECKOUT	ok	rb	rb
2.1.5	ROOM TEMPERATURE HIPOT	ok	ml/ah	ah
2.1.6	ROOM TEMPERATURE ELECTRICAL CHECKOUT	ok	ml/ah	ah
2.1.7	PRESSURE TEST DOCUMENTATION	done	tn/tp	tp
2.1.8	LEAK CHECK DOCUMENTATION	done	tn/tp	tp
2.1.9	CRYOSTAT SAFETY DOCUMENTATION	done	tn/tp	tp
2.1.10	PIPE ASSEMBLY DOCUMENTATION	done	tn/tp	tn
2.1.11	WARM CRYOSTAT TO MAGNETIC AXIS REFERENCE	done	ps	ps

COMMENTS:

LQXA08 includes corrector HCMCBX_001-SI000011 and quadrupole MQXA09.

The ID card for LQXA08 has been completed and is being transmitted separately.

2.1.3 (note by R. Bossert) RTD (TT8321), the redundant RTD, was found to be open during the inspection of the hypertronics connector, reason unknown. It was operating properly prior to installation of the connector. A new RTD was mounted at the non-IP end (both RTD's are normally at the IP end) inside the helium pipe that is opposite to the pipe carrying the power leads. New RTD leads were routed into the end dome and back out with the normal instrumentation wire bundle. The leads to the open RTD were removed from the hypertronics connector and insulated. The new RTD was wired into the hypertronics connector. There were no problems with the cryogenic (warm-up) heaters.

REFERENCED CRITERIA:

2.1.1 THERMOMETER AND WARM UP HEATER INSTALLATION
Requirement: Thermometers and heaters installed properly
(Module assembly traveler)

2.1.2 BUS WORK CHECKOUT
Requirements: Bus work properly insulated, strain relieved
(Module assembly traveler)

2.1.3 ROOM TEMPERATURE HIPOT
Requirements: For completed LQXA: (1) with coil shorted to ground, hipot heater to ground 3kV, (2) with heater shorted to ground, hipot coil to ground 3 kV. Leakage current less than 3μA and no breakover.
(Cold mass traveler/module assembly traveler)

2.1.4 ROOM TEMPERATURE ELECTRICAL CHECKOUT
Requirements: Instrumentation wires are properly labelled, correct wire gauge, correctly wired to instrumentation connector, proper continuity
(Module assembly traveler)

2.1.5 PRESSURE TEST DOCUMENTATION
Requirement: Test pressure of 1.25 times the design pressure. The design pressure is 20 bar so the test pressure is 25 bar or approximately (2.5 Mpa).
(Section 5034 of the Fermilab ES&H Manual [6] and UG-100 of the ASME Code)

2.1.6 LEAK CHECK DOCUMENTATION
Requirement: Follow requirements in Fermilab Specification ES-107240 [9]. Leak rate $\leq$ 2 10-9 atm cc/s.
(Cryostat assembly traveler)

2.1.7 CRYOSTAT SAFETY DOCUMENTATION
Requirement: Design according to ASME BPV Section VIII, Division I and must meet all applicable safety codes in the FNAL ES&H Manual and CERN/LHC – US/LHC MoU on Accelerator Mechanical Safety
(ASME BPV Section VIII and Section 5034 FNAL ES&H Manual)

2.1.8 PIPE ASSEMBLY DOCUMENTATION
Requirement: See LHC-LQX-ES-0007 and reference drawings
(Cryostat assembly traveler)

2.1.9 WARM CRYOSTAT TO MAGNETIC AXIS REFERENCE
Requirements: See LHC-LQX-ES-0007
(LQXA_C Test Run Plan)