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PRINCIPAL LHCC DELIBERATIONS

19TH MEETING OF THE LHCB RESOURCES REVIEW BOARD

24 OCTOBER 2007

EMMANUEL TSESMELIS

SCIENTIFIC SECRETARY, LHCC

GENERAL

This document summarises the principal LHCC deliberations concerning LHCb at the Committee's sessions in May, July and September 2007.

CONCERNS FROM THE PREVIOUS LHCb RESOURCES REVIEW BOARD

SUB-SYSTEM	CONCERN	STATUS
Outer Tracker	Gain-loss observed in the straw chambers.	The gain-loss observed in the modules from the series production has been traced to the glue used in the fabrication process. Thermal treatment by means of heating blankets will be applied to mitigate the gain-loss effects but the LHCC considers that the gain-loss problem continues to be a concern for the long-term performance of the Outer Tracker and encourages LHCb to continue exploring detector replacement options.

EXPERIMENT SUB-SYSTEMS

GENERAL INFRASTRUCTURE

The major infrastructure works are approaching completion. The complete LHCb experimental beam pipe and vacuum system have been installed, baked-out and commissioned. The installation of the front radiation shielding wall is scheduled to be fully in place by the end of 2007.

VERTEX LOCATOR

Good progress was reported on the Vertex Locator (VELO), with no major concerns having been identified.

INNER TRACKER AND TRIGGER TRACKER

Good progress was reported on the Inner Tracker (IT) and Trigger Tracker (TT), with no major concerns having been identified.

OUTER TRACKER

The gain-loss observed with a particular rate in the modules from the series production has been traced to the glue used in the fabrication process. Tests have shown that heat treatment of the chamber reduces the gain-loss and a set of heating blankets has been ordered and will be used to perform a heat treatment *in situ*. A gain monitoring system is being put in place to be operated *in situ*. The LHCC considers that the gain-loss problem continues to be a concern for the long-term performance of the Outer Tracker and encourages LHCb to continue exploring detector replacement options.

RING IMAGE CHERENKOV DETECTORS

Good progress was reported on the Ring Image Cherenkov detectors RICH-1 and RICH-2. Production of the RICH Hybrid Photon Detectors (HPDs) is complete.

MUON SYSTEM

Good progress was reported on the Muon System. With the installation of the M1 Muon Station in March 2008, LHCb will be complete in time for the start of LHC operation later in the year.

ONLINE SYSTEM

The realization of the LHCb Online System is advancing well, but the available manpower remains critical.

INSTALLATION AND COMMISSIONING

Good progress was reported on the installation of the LHCb sub-detectors. Preparations for the next round of the spectrometer magnet commissioning are on track for the exercise planned for October 2007. Commissioning of all LHCb sub-detectors is in progress and is expected to be completed by March 2008. Global commissioning of the LHCb experiment, by combining several LHCb sub-systems, is about to commence.