

CERN-RRB-2008-097
31 OCTOBER 2008

PRINCIPAL LHCC DELIBERATIONS

27TH MEETING OF THE CMS RESOURCES REVIEW BOARD

11 NOVEMBER 2008

EMMANUEL TSESMELIS
SCIENTIFIC SECRETARY, LHCC

GENERAL

This document summarises the principal LHCC deliberations concerning CMS at the Committee's sessions in May, July and September 2008.

The LHCC congratulates the CMS Collaboration for successfully completing the installation of the detector and for preparing the experiment and the entire data chain for first LHC beams. The completion of the very complex and numerous tasks was made possible by the outstanding planning and efficient implementation by the CMS Collaboration.

CONCERNS FROM THE PREVIOUS CMS RESOURCES REVIEW BOARD

SUB-SYSTEM	CONCERN	STATUS
Hadronic Calorimeter (HCAL)	Higher-than-expected noise level in the Hybrid Photon Detectors (HPDs).	Investigations are well underway.
Resistive Plate Chambers (RPCs)	Demonstration that the gas recirculation can be implemented without increasing dark current remains outstanding and must be resolved.	Investigations are well underway.

EXPERIMENT INSTALLATION

The CMS sub-detectors were installed and performed well for the first LHC beams. Outstanding progress was made in completing the construction of the End-cap Electromagnetic Calorimeter (EE) and the detector was installed for the LHC start-up. Moreover, all detectors of the Beam Radiation Monitoring (BRM) system were installed in time for the LHC start-up. Assembly of the Preshower (ES) is well-underway and it is expected that CMS will have the ES ready for installation by the end of 2008.

EXPERIMENT COMMISSIONING

Commissioning of the CMS magnet to the operating field of 3.8 T has started. At values of 3 T, field-induced effects on the PM54 lift and relative movements of the Forward Hadronic Calorimeter (HF), Collar Shielding and the CASTOR calorimeter table were observed. This is under investigation and will be rectified during the 2008-2009 shutdown period. *Since the September 2008 session of the LHCC, the magnet has reached its operating field and over 250 million cosmic-ray events have been collected in this mode and with the whole experiment functioning well.*

Most of the CMS sub-systems have passed successfully through a series of combined data tests with cosmic rays. CMS commissioning with beam started with the first LHC beams and particularly with the so-called 'splash events' on the LHC collimators around CMS. The calibration and alignment procedures are in progress while the CMS operational model works well.

2008-2009 SHUTDOWN

The CMS technical planning is adapting to the untimely longer shut-down. Work is scheduled for the shut-down period, including installation and commissioning of the ES, as well as consolidation / repairs to the electrical distribution system, to the detector gas system, to the inertion / dry air system, and to the cooling system.

TRIGGER, DAQ AND HIGH-LEVEL TRIGGER

Good progress was reported on the Trigger, DAQ and High-Level Trigger, with no major concerns been identified.

SOFTWARE AND COMPUTING

The Computing, Software and Analysis (CSA08) and Common Computing Readiness Challenge (CCRC08) exercises in May 2008 proved to be highly successful. CMS has made good progress in preparing the analysis of the first physics data. An organization of working groups and software infrastructure to deal with the first data and to derive the relevant physics quickly has been put in place.