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PRINCIPAL LHCC DELIBERATIONS

28TH MEETING OF THE CMS RESOURCES REVIEW BOARD

27 APRIL 2009

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GENERAL

This document summarises the principal LHCC deliberations concerning CMS at the Committee's sessions in November 2008 and February 2009.

The CMS plan for the 2008-2009 shutdown period is reasonable. The Committee considers that it is realistic for CMS to be completely ready for LHC beams in 2009.

CONCERNS FROM THE PREVIOUS CMS RESOURCES REVIEW BOARD

SUB-SYSTEM	CONCERN	STATUS
Hadronic Calorimeter (HCAL)	Higher-than-expected noise level in Hybrid Photon Detectors (HPDs).	HPDs that showed anomalous behaviour under magnetic field have been replaced.
Resistive Plate Chambers	Demonstration that the gas recirculation can be implemented without increasing dark current remains outstanding and must be resolved.	Good progress was reported on understanding and resolving the Resistive Plate Chamber (RPC) dark current problem.

STATUS OF SUB-SYSTEMS

MAGNET

CMS has brought successfully the magnet to full field and carried out a cosmic-ray run at 3.8 T over many weeks together with various tests of the magnet.

PRESHOWER

The installation of the Preshower (ES) is well underway and its completion in spring 2009 will complete the CMS low-luminosity detector.

CALORIMETERS

The CASTOR calorimeter requires a major re-design to withstand the unexpectedly large stray fields and magnetic forces of the CMS solenoid magnet. A solution is under investigation and it is expected that the calorimeter will be re-installed in CMS following improvements to the field-tolerant photomultipliers and support structures.

2008-2009 SHUTDOWN

CMS has a reasonable plan for the 2008-2009 shutdown period. In addition to the installation of the ES, CMS plans to carry out repair work on the cooling systems of the Tracker and Forward Pixel Detector, replace the Hybrid Photo Detectors (HPDs) of the Hadronic Calorimeter that are sensitive to magnetic fields, repair some barrel muon chambers and end-cap Cathode Strip Chambers (CSCs) and resolve the issue of increased leakage current in some of the end-cap Resistive Plate Chambers (RPCs). CMS is on schedule to close the detector in June 2009 for an additional cosmic-ray run. The experiment will be ready for beam in September 2009.

EXPERIMENT COMMISSIONING

Very good progress has been reported on the commissioning of the CMS detector using cosmic-rays with the solenoid magnet operational at 3.8 T. The experiment ran continuously for about four weeks and collected 370 million cosmic-ray events. CMS has used the data for alignment, efficiency and timing studies.

SOFTWARE, COMPUTING AND READINESS FOR PHYSICS

Good progress was reported on software, computing, and readiness for physics, with no major issues identified. These areas are in extraordinary good shape. Excellent progress was noted regarding the analysis of the CRAFT cosmic-ray data, the development of physics objects, the preparation of analyses for 10 TeV collisions, the Tracker alignment and the reconstruction.