

CERN-RRB-2008-015

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# PRINCIPAL LHCC DELIBERATIONS

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26<sup>TH</sup> MEETING OF THE CMS RESOURCES REVIEW BOARD

14 APRIL 2008

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SCIENTIFIC SECRETARY, LHCC

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**GENERAL**

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This document summarises the principal LHCC deliberations concerning CMS at the Committee's sessions in November 2007 and February 2008.

CMS remains on course to commission in the underground experiment cavern the solenoid magnet and the initial detector and to take beam as soon as it becomes available as of mid-June 2008.

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**CONCERNS FROM THE PREVIOUS CMS RESOURCES REVIEW BOARD**

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| <b>SUB-SYSTEM</b>         | <b>CONCERN</b>  | <b>STATUS</b>   |
|---------------------------|---|---|
| Hadron Calorimeter (HCAL) | Higher-than-expected noise level in the Hybrid Photon Detectors (HPDs).   | Studies are in progress to investigate the effect observed during the CMS Magnet Test and Cosmic Challenge. |
| Resistive Plate Chambers  | Demonstration that the gas recirculation can be implemented without increasing dark current remains outstanding and must be resolved. | Studies are well underway.  |

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**EXPERIMENT SUB-SYSTEMS**

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**GENERAL**

Installation of the experimental beam pipe and of the detector services and infrastructure is advancing well. Essentially all the detector electronics are in hand. All barrel and end-cap yoke elements of the solenoid magnets have been lowered into the CMS experiment cavern and the installation of the services on the central barrel yoke (YB0) has been completed.

**SEMICONDUCTOR TRACKER**

Commissioning of the Silicon Strip Tracker (SST) has been completed on the surface and the detector has been installed in CMS in the underground experiment cavern. Connections to the services and the commissioning are well-underway. Good progress was reported on the barrel and forward Pixel Detectors and the detectors are expected to be available in time for their ready-for-installation milestone.

## **CALORIMETERS**

Installation of the Barrel Electromagnetic Calorimeter (EB) is complete. The schedule for the End-cap Electromagnetic Calorimeter (EE) has slipped considerably since the end of 2007 due to the longer-than-expected time taken to re-design and manufacture the new cooling blocks. Modules of the new cooling blocks are being installed in the Dee-1 of the EE and those for Dee-2, Dee-3 and Dee-4 are under production. Additional resources are being added and a EE Task Force has been created to oversee the EE. The LHCC took note of the CMS proposal for the construction of a spare EB module and the Committee has lent its support.

Good progress was reported on the Preshower (ES) and the detailed ES schedule is currently under review.

Studies are in progress to investigate the higher-than-expected noise level observed in the Hybrid Photon Detectors (HPDs) of the Hadron Calorimeter during the CMS Magnet Test and Cosmic Challenge.

The LHCC took note that the CMS Engineering Design Review for the CASTOR calorimeter and the Committee provided conditional approval to proceed with the construction of the detector and endorsed the purchase and preparation of material.

## **MUON SYSTEM**

Studies are well underway to demonstrate that the gas recirculation for the Resistive Plate Chambers (RPCs) can be implemented without increasing dark current.

## **COMPUTING**

Good progress was reported on the CMS computing. The CMS computer infrastructure was operated during the Computing, Software and Analysis 2007 (CSA07) and the lessons learnt from the challenge are being implemented. The plans for the Combined Computing Readiness Challenge 2008 (CCRC08) are reasonable.