Presentations and Document Overview for the July 22, 2024, Annual Review of the NSF MREFC CMS HL-LHC Upgrades

This document provides a brief overview of the documents and presentations prepared for the annual review on July 22, 2024, of the CMS NSF scope HL-LHC upgrades. The main charge questions addressed by the documents are indicated, e.g. [Ch 3c].

Presentations (each presentation indicate the charge questions addressed in the slides)

* Project Overview (A. Ryd)
* Cost, Risk, and Schedule (L. Taylor)
* BCAL Progress (C. Jessop)
* Muon Progress (A. Safonov)
* TFPX Progress (K. Ecklund)
* Trigger Progress (K. Ulmer)

Project Plans

* NSF Project Execution Plan – This version is updated with respect to the FDR version to respond to recommendations and comments from the NSF EVM certification prior to starting the award on April 1, 2020. This version was used in the terms of the cooperative agreement. [Ch 2a]
* Key Assumptions – This version has minor updates to reflect, e.g., updated escalation rates currently used by the project.
* Cost Estimating Plan – FDR version
* Quality Assurance Plan – Minor updates to plan and more specific plans for L2 area QA/QC. [Ch 2d]
* Systems Engineering Management Plan – Minor updates with respect to FDR version
* Project Organization Charts – With updates to the project organization since FDR
* Configuration Management and Change Control Plan – FDR version [Ch 2a]
* Abbreviations and Acronyms – List of commonly used acronyms in the project documents.

Scope

* Summary of Scoping Options – Updated with current schedule. [Ch 1a]
* Work Breakdown Structure – FDR version

Technical

* Science Goals and Requirements – FDR version
* 402.3 Barrel Colorimeter – Requirements and Interfaces – Minor updates.
* 402.5 Muons – Requirements and Interfaces – Minor updates.
* 402.7 TFPX – Requirements and Interfaces – Minor updates.
* 402.9 Trigger – Requirements and Interfaces – Minor updates

Cost

* BoEs – Basis of Estimate – Main updates in BCAL
* Control Accounts and Chargeable Task Codes – Updated CAMs

Schedule

* Project Schedule – Summary views – Updated for current schedule
* P6 Schedule (Gantt) – Updated for current schedule

Risk Management

* Risk Register – Latest risk register as of June 1, 2024. [Ch 2c]
* Risk Management Plan and Contingency Analysis – Updated cost and schedule MC following updates to risk register. [Ch 2c]

Change Control and Reporting

* Monthly Reports – The monthly reports to NSF. [Ch 2a]
* Baseline Change Control Log – The BCR log. [Ch 2a]
* NSF MREFC Baseline Change Requests – The BCRs. [Ch 2a]

CMS Documents

* TDR – the Phase-2 Upgrade of the CMS Tracker
* TDR – the Phase-2 Upgrade of the CMS Barrel Calorimeters
* TDR - the Phase-2 Upgrade of the Muon Detectors
* TDR – the Phase-2 Upgrade of the CMS Trigger

Previous Reviews

* NSF Final Design Review Report. [Ch 1a]
* Response to FDR Recommendations – A summary of our responses to the recommendations from the FDR. [Ch 1a]
* NSF Final Rebaseling Review Report. [Ch 1a]
* Response to Rebaselining Recommendations – A summary of our responses to the recommendations from the rebaselining review. [Ch 1a]
* CMS May 2024 P2UG Review Report