



Updating the Preliminary Baseline Design Report

John Carlstrom

CMB-S4 Collaboration Meeting
April 3-6, 2023



What is the PBDR?

A document that gives the high-level overview of the Science Case, the Technical Design, and the Validation that the design will deliver the science, as well as an overview of the Project.

It should be readable by anyone interested in learning about CMB-S4. It will be posted to the public archive (arXiv).

While it gives the overall design, it is not the authoritative reference for design specifications, nor should it include the detailed specifications. These are covered in the various CMB-S4 Project documents.

The PBDR should not have to be continually updated as the detailed specifications of the design are worked out. It should remain a viable and useful overall guide of the design as the detailed specifications and interfaces are evolved.

Updating the PBDR

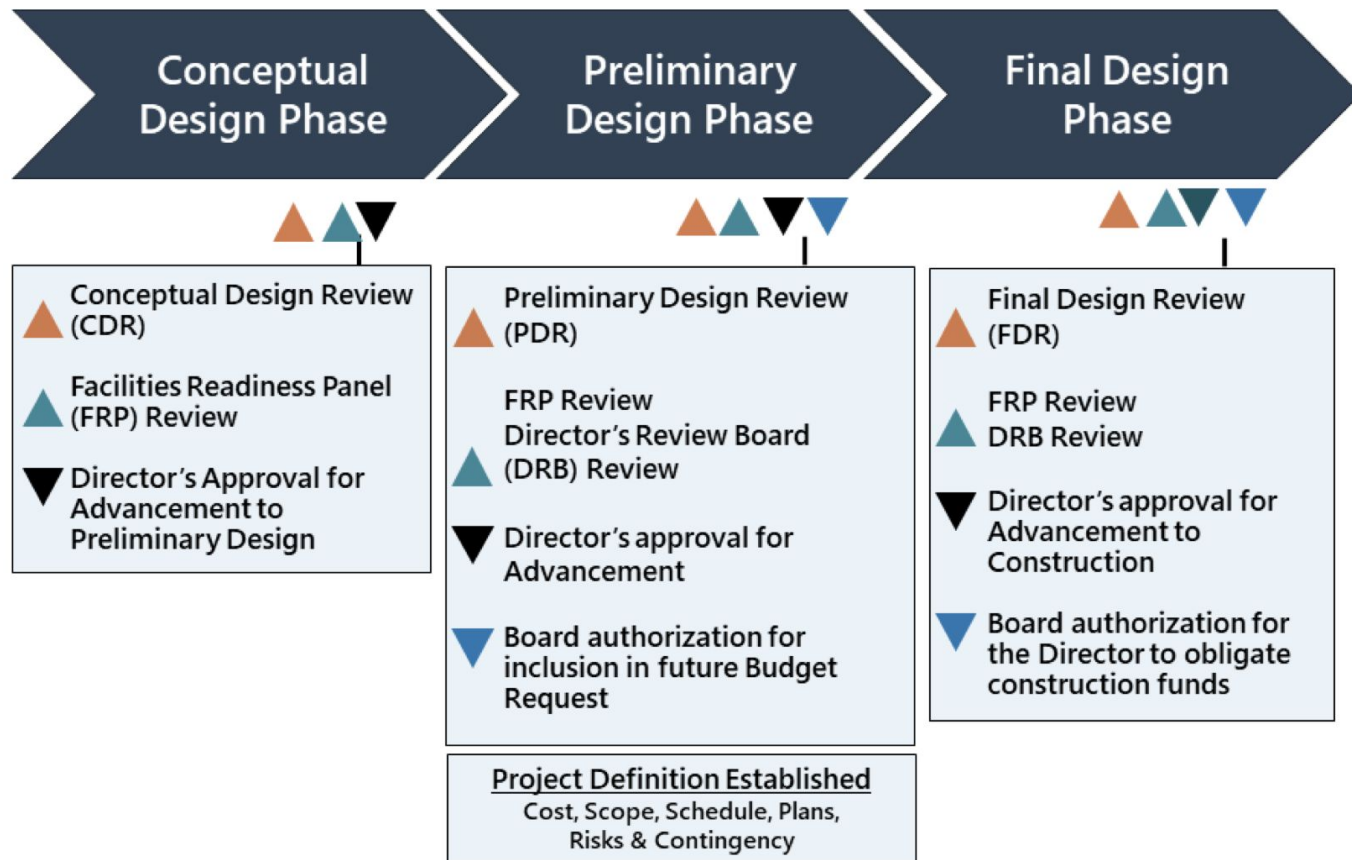
- Why it needs updating?
 - The Analysis of Alternatives resulted in a new preliminary baseline design.
- What needs updating?
 - Science case remains the same, but can always be strengthened
 - Instrument configuration needs to be revised from six to three 3-tube SATs
 - Overall instrument design (Chapter 4) and the performance and science forecasts (Appendix) need to be updated
- What needs to be added?
 - Renewable energy for South Pole and Chilean Sites
 - An additional Appendix on Scope Opportunities
- When does it need to be completed?
 - To be released prior to the next Director's Review → target release by August, 2023
- Who will update it?
 - Project and Collaboration with section leads identified in the document.
See PreliminaryBaselineDesignReport repository on GitHub.

A comment and a request

- The PBDR version released for the (canceled) OPA review was saved in the GitHub repository (all files as Tag: OPA2022) and the pdf is in docdb, [CMBS4-doc-716](#). So, do not worry about updating the current files in the repository.
- Please use reasonably sized image files!

Thanks





From Research Infrastructure Guide: NSF 21-107 December 2021