

Advanced Photon Source Upgrade Project

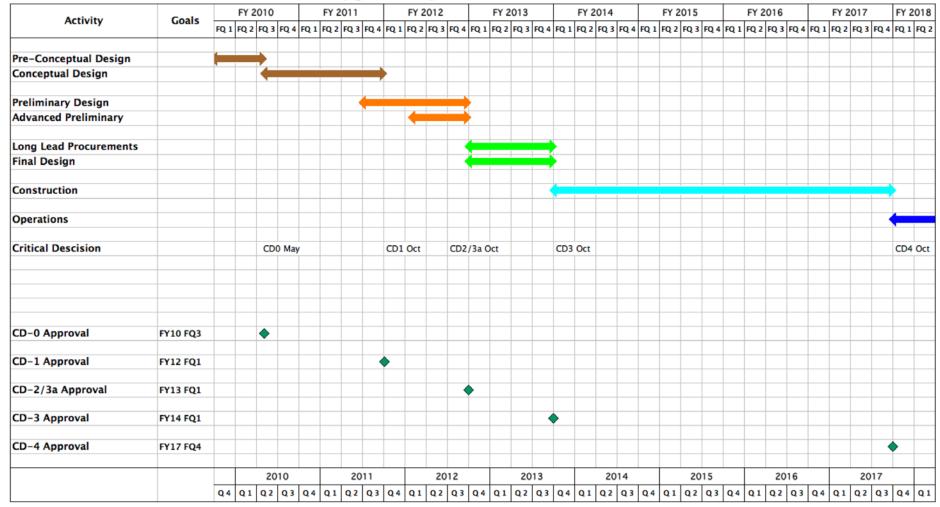
Status Update August 18 2010

Derrick C. Mancini

APS-U Project Director

APS Upgrade Anticipated Timeline

APS Upgrade Expected Timeline and Milestones

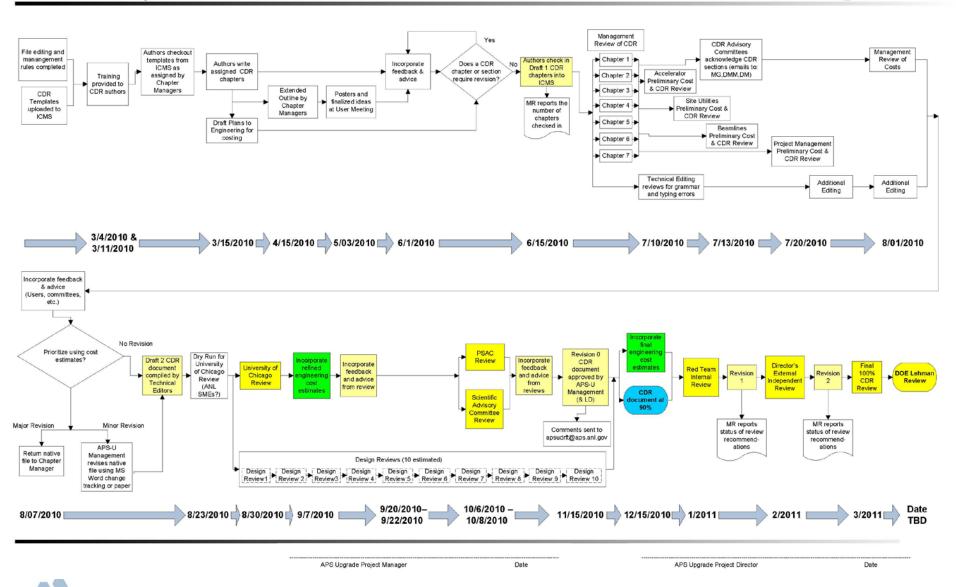




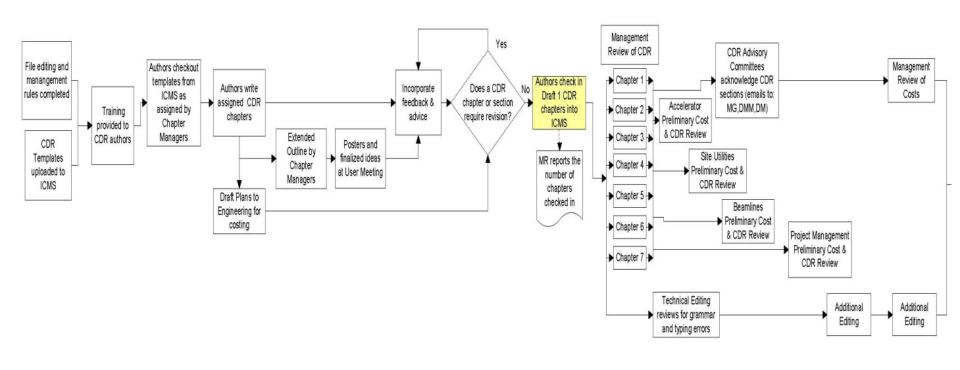
Conceptual Design Report Process

- Conceptual Design Report (CDR) defines and justifies the technical scope of the project
 - Relates the Scientific Mission from Critical Decision 0 (CD0) to APS-U scope
 - Early technical design specifics, alternative analyses, and/or approach to design
- Three major revisions
 - Revision 0: First complete conceptual design document with initial input from primary stakeholders and reviews by ANL management and advisory committees.
 This version would be ready for further review by external stakeholders.
 - Revision 1: Major revision that incorporates further technical review, detailed cost estimates, and strategic and logistical adjustments to final technical scope.
 - Revision 2: Final revision for presentation at DOE Review for Critical Decision 1 (CD1)
- Revision 0 being prepared now, undergoes 3 Drafts to completion
- In parallel, preparing and practicing presentations describing the CDR
- CDR is only one document of many documents required for CD1
- Project team is working on preparing first versions of all documents required for CD1 by December 2010





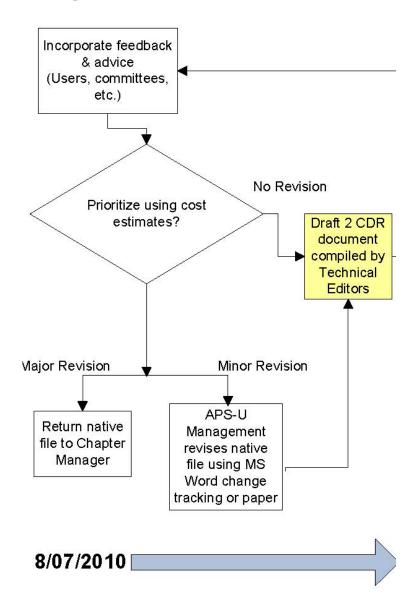
What we have done so far







Where we are today



Current Status of CDR

- As of July 5, 2010 early draft of the Conceptual Design Report was completed
- Preliminary "bottoms up" cost estimate of the project was completed
- All chapters underwent a first review by APS management and members of the APS-U Steering Committee
- Comments were tabulated and provided to authors
- Authors are modifying chapters to incorporate feedback
- Cost estimate is being adjusted to reflect anticipated scope and improve accuracy
- Theme leaders have prepared talks for presentation at August 30 University of Chicago review of APS and APS-U
- Dry runs of talks are underway
- Entire document undergoing copy editing and reformatting



CDR Table of Contents

Acronyms and Abbreviations

List of Contributors

List of Figures

List of Tables

1 Executive Summary

1.1 Introduction

1.2 Scope

1.3 Capabilities

1.4 Cost and Schedule

1.5 Acquisition Strategy

2 Project Overview

2.1 Introduction

2.2 Work Breakdown Structure

2.3 Cost and Schedule

2.4 Project Management

3 Accelerator Upgrades

3.1 Overview

3.2 Lattice and Accelerator Physics

3.3 Beam Stability

3.4 Insertion Devices

3.5 Short-pulse X-rays

3.6 Higher-current Alternatives

3.7 Front-end Upgrades

4 Experimental Facility Upgrades

4.1 Overview

4.2 Ultrafast Dynamics

4.3 Imaging and Coherence

4.4 High-resolution Spectroscopy

4.5 Extreme Conditions

4.6 Interfaces in Complex Systems

4.7 Proteins to Organisms

4.8 General Beamline Upgrades

4.9 Detector Development Capability

5 Enabling Technical Capabilities

5.1 Overview

5.2 IT Infrastructure

5.3 Software Infrastructure

5.4 Physical Infrastructure

6 ES&H

6.1 ES&H

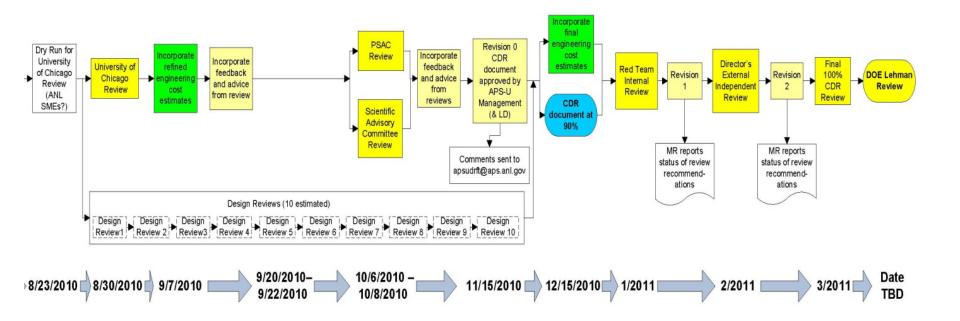
6.2 QA

7 Work Breakdown Structure

7.1 WBS Dictionary

Index

Where we are going in the future





How to keep informed and provide input

- This meeting, APS Monthly Operations Meeting
- APS-U Monthly Meeting
 - (10:30-11:30am, A1100, last Friday of the month, except September is Wednesday)
- APS-U Web Site http://aps.anl.gov/Upgrade
 - Will soon be adding monthly status updates
 - Input and discussions can be provided via the APS-U Discussions Forums
- APS community encouraged to provide input via APS-U Steering Committee
- For detailed information on beamlines, contact relevant theme leaders

Linda Young (Ultrafast Dynamics)

Chris Jacobsen (Imaging and Coherence)

Steve Heald (High Resolution Spectroscopy)

Jonathan Lang (Extreme Conditions)

Paul Zschack (Interfaces in Complex Systems)

Stefan Vogt (Proteins to Organisms)

 If interested in participating in a design review, contact Dean Haeffner for beamlines and Michael Borland for accelerator

