

APSU Forum

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28 May 2015



Topics

- Prep for CD-1
- FAQ Starters:
 - Current ID / BM offsets
 - APS-U and Infrastructure
 - Beamline Scope at CD-1

Preparation for CD-1

- Complete advisory committee structure and use them to assess our readiness
 - Project Management Advisory Committee (PMAC), Carl Strawbridge, Chair – June 9-10
 - Experimental Systems Advisory Committee (ESAC), Piero Pianetta (SLAC), Chair – June 18-19.
- Carry out APS-U Basis-of-Estimate “drill-downs/crosschecks”, including 1 external expert in each, May 21- June 3:
 - Installation, Magnet systems, Vacuum systems, Power supplies, Control systems
- Hold Science Planning workshops in May/June; complete Early Experiments document
- Complete documentation
 - CDR
 - Final revisions due June 5
 - Complete Science Case CDR chapter based on Science Planning Workshops
 - PPEP, all other project documentation in progress (next page)
- Director’s review July 15-17

Preparation for CD-1

TOTAL PROJECT COST (TPC)		Less than \$750M to \$400M	Status
DECISION / REQUIREMENTS ¹ / APPROVAL ²			
CD-1--APPROVE ALTERNATIVE SELECTION AND COST RANGE		SC-1	
PRIOR TO CD-1--CONCEPTUAL DESIGN	Approve Acquisition Strategy	Reviewed by SC-28 Approved by SC-1	- Based on previous, updated draft in hand
	Approve Preliminary Project Execution Plan (PEP)	Reviewed by SC-28 Approved by SC-1	- In review, KPPs, TPC, Profile from March Mtg
	Appointment of the Federal Project Director (FPD)	SC-1	COMPLETED ✓
	Establish and Charter Integrated Project Team (IPT)	SC-1	- Draft rec'd
	Develop a Risk Management Plan	Project	- Final Approval Stage ¹
	Comply with the One-for-One Building Space Replacement	Project	N/A
	Complete a Conceptual Design	Project	In process - Draft completed and has been externally reviewed
	Document High Perf. & Sustainable Bldg. & Sustainable Env. Stewardship considerations	Project	N/A
	Conduct a Conceptual Design Review	Team external to project	MAC review held 2/2015. System Level review completed 4/2014. ✓
	Complete a Conceptual Design Report	Project	- Last Mods due June 5...Final available for Dir. Review.
	Prepare a Preliminary Hazard Analysis Report	Site Office or Lab	All comments addressed, final check with reviewer
	Develop and Implement an Integrated Safety Management Plan	Site Office or Lab	APS-U will use the ANL worker safety and Health program ✓
	Establish Preliminary Quality Assurance Program (QAP)	Site Office or Lab	- In external review
	Identify general Safeguards and Security requirements for the recommended alternative	Site Office or Lab	Completed ✓
	Complete National Environmental Policy Act (NEPA) Strategy by issuing a determination (i.e., EIS, EA)	Site Office or Lab	- ASO review and approval
	Conduct Independent Project Review or External Independent Review	ICE or ICR by OECM with OPA	To be requested/scheduled by BES. DOE BES/OPA review with APM participation - TBD
Update PDS, or other funding documents for MIE and OE projects, and OMB 300s, if applicable.	SC-AD	On-going and up-to-date	
1. Documents and reports are not intended to be stand-alone and may be combined; 2. Where no approval authorities are noted, authorities are established through other directives or the Program Offices (e.g., Functions and Requirements Assignment Matrix).			

Preparation for CD-1

- The Project is planning for a DOE CD-1 Review September 22-24
 - Director's Review set for July 15-17
 - Ed Temple, Chair
 - 6 subcommittees
 - Accelerator Physics
 - Accelerator Systems
 - IDs, Front Ends and Beamlines
 - Installation
 - Management
 - Cost and Schedule
- We do not plan any CD-3B/LLP items at review
- TPC and funding profile from March used as planning basis
- Ongoing discussion of KPPs with BES

September 2015

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

●: 5 ●: 13 ●: 21 ○: 27

FAQs (1)

Current Source Locations in the Conceptual Design

- Insertion Device Beamlines
 - The length of the ID straight section stays the same (4.8 m long IDs).
 - The angle of the beam from the ID will be the same as current APS.
 - The beam will be shifted outboard by approximately 42 mm and remain parallel to the existing beam.

- Bending Magnet Beamlines
 - The BM source will be from a 3PW (or equivalent) and / or the adjacent M4+M3 transverse gradient dipole magnets.
 - The total fan will be 6 mrad – same as current.
 - The source point will be shifted upstream by 2.925 m
 - The beam will be shifted outboard by approximately 30 mm and remain parallel to the existing beam

ALTERNATIVELY, we are investigating changing the circumference of the Booster (and the RF frequency by several ppm), which would move the MBA source points closer to the existing. This trade off will be more fully explored in the coming year.

FAQs (2)

Interface with Existing Facility

- The APS-U
 - builds on and is dependent on existing APS infrastructure
 - will deliver a stable beam
- Some infrastructure may require upgrades
 - We are developing (and in places currently executing) plans to gather data
 - The scope of required upgrades will be better defined after the requirements are better understood and the performance of the current systems is

Beamline Scope

- For CD-1 we will present generic ‘planning packages’ based on APSU and BNL experience, including
 - New Beamlines
 - Major Upgrades
 - Minor Upgrades
- The total scope is larger than in the APSU v1.
- As the Science Case and Beamline Selection process matures, these estimates will be made more detailed
- Beamline Selection Process will be presented to SAC for feedback

FAQs (3)

We will post FAQs on the Forum (and APS-U) web pages

We look at the Forum as a place to inform you on our status AND gather questions

- Responses may not be immediate
- Please send questions to Stefan and Dean

Upcoming Events / Notes

- Next APS-U Forum -> June 11
- APS-U Early Experiments
 - Environmental and Geosciences -> June 1, 2
 - Biological and Life Science -> June 22, 23
- SRI (New York) -> July 6-10
- SRI Satellite Workshops -> July 12-15
- Denver X-ray Conference -> Aug. 3-7

Notes:

- We are interested in helping to organize workshops at professional meetings.
- We have a APS-U slide deck that can be used for talks.
 - Contact Dean