

# APS-U Update

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APS-U Forum

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# APS-U Update

- No major budget news
  - Project management is working closely with DOE on various budgeting scenarios
- No major Project review (i.e., CD-2) set
  - Some sort of Project wide review Sept. – Dec. is likely
- Technical reviews
  - Q3-Q6 Magnet Final Design Review (Jan. 26)
  - Longitudinal Feedback System (Jan. 30)
  - Final design review of the lattice coming soon (early May?)
  - Several ID design reviews coming soon (first are in March)
  - Feature Beamline technical reviews coming → more on next slide
- LLP purchases proceeding
- Current goal → Advance technical designs as far as possible
  - “Procurement Ready”



# APS-U Beamlines Update

- Technical review for each beamline starting in April, through July
  - One day reviews, at least two external reviewers
- 28-ID beamline enclosures awarded
  - Caratelli (France)
  - Design changes being discussed
  - Work on site ~ April, Beneficial Occupancy ~ Sept.
  - Option for 25-ID, one year to execute
  - R&D beamline rebranded → Instrumentation Development, Evaluation & Analysis Beamline: **IDEA**
- Long beamline building preliminary design contract work underway – Studio GC
  - PD finished ~ May 1
- FReDs for every feature beamline, about half in approval chain
- Initial bottom up cost estimates complete for Feature Beamline
  - Being put into formal P6 scheduling database
- Shielding with Brad Micklich, SLAC



# Beamline Enhancements

- Reorganized the Enhancement proposals by beamline for a total of 15 projects
- Contacted each beamline by email and requested point-of-contact (attached action item list from previous meeting and a FReD template)
- FReDs due March 2 and should include a conceptual design of the proposed instrument(s) with preliminary specifications, schematic depiction(s), and enough detail to determine a bottom up budget for the beamline
- The FReDs will be used to prioritize projects and assign engineering effort
- Engineering Specifications Document (ESD) and Interface Control Documents (ICD) to follow with project
- Specific due dates somewhat dependent on project prioritization and complexity (engineering resources)

## Long Lead Procurements (LLP)

- FY17 LLP for a Horizontally Deflecting Monochromator
  - Awarded to IDT in October 2017
  - FDR expected February 2018
  - Delivery September 2018
- FY18 LLP for a Vertically Deflecting Double Crystal/Multilayer Monochromator
  - SOW and ESD completed with RFP to vendors first half of February



# APS-U Working Group Meetings

- Nanopositioning Working Group formed with first meeting January 19
- The purpose of this working group is to foster communication between project leaders and identify possible overlap between each of the APS-U projects listed below
  - 2-ID Microprobe (Enhancement)
  - 19-ID ISN nanoprobe
  - 26-ID Nanoprobe (Enhancement)
  - 33-ID PtychoProbe
  - BNP-II: 10 nm cryogenic XRF nanoprobe (Enhancement)
  - 34-ID ATOMIC
  - 34-ID 3DMN
- The goal is to determine where it makes sense to develop common design solutions for instrumentation and associated infrastructure by leveraging the group's experience
- First two meetings well attended with PIs presenting conceptual designs and specifications
- Interest high, both Scientists and Engineers
- Several mechanical and control-system design challenges already identified
- Clearly, there are many different approaches/philosophies to motion control and data acquisition

We are looking to form additional Working Groups in the near future  
Suggestions most welcome



# Vibration and Environmental stability interest group

Chairs: Steve Kearney and Sunil Bean

**Primary focus to develop vibrational expertise, best practices, and tailored solutions for specific issues here at the APS.**

**Secondary focus to discuss topics that will include environmental stability (temperature, acoustics, etc.).**

## Preliminary Topics

- Interpreting vibration data
- APS floor vibrations and the isolation joint
- APS vibration sources
- Instrument table design
- Vibrating optics and their correlation to beam stability
- Stability issues at 15-ID

Meetings are open to all and will occur monthly. First meeting date to be announced soon.

Third Thursdays at 10 am in A1100.

# U2.04 Experimental Facilities Plan for FY18

- Plan for possible CD-2 review in ~ Sept.
- Feature Beamlines
  - Complete preliminary design for all Project beamlines
  - All Functional Requirement Documents (FReDs) signed off
  - Interface Control Documents (ICDs) signed off
  - Bottom up costing/scheduling of beamlines
    - Complete integration into P6
  - Scope adjustments to fit budget
  - Identify individual beamline risks
  - Formation of Beamline Advisory Teams (BATs) for Feature Beamlines
- Beamline Enhancements
  - Refine scope definition, FReDs developed with receiving beamlines
  - Bottom-up, individualized cost estimates
  - Award contract for Optics LLP #2
- R&D
  - Continue Zone Plate Fabrication, Stacking R&D
    - Milestone AP-FY18-M8
    - Finish Fabrication and characterization of a set of 6 zone plates with 16 nm outer most zone width
  - R&D Beamline enclosure construction
    - Final design for required components, utilities, etc.
  - Detailed R&D Beamline agenda developed



- Questions?

