

Roadmap Scenarios

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Outline

- Introduction
 - - Strategic context
 - - Assumptions
- Building blocks of scenario development
- Example of a scenario
- Scenarios summary
- Next Steps

Introduction: General

- Roadmap scenarios development is part of the strategic plan for future APS:
 - Incorporates beamlines within APS Upgrade (APS-U)
 - Provides options for beamlines developments beyond APS-U
- Follows recommendations of the APS SAC: top priority for “Very Strongly Recommended” beamlines
 - Five ID and one BM beamlines
 - Currently these six beamlines within the upgrade scope and in CD-1
- Considers Dynamic Compression Sector (DCS)
 - Fast track funding from NNSA
 - One ID beamline

Introduction: Roadmap Goals

- Preserves all current programs
 - “Do no harm”
 - Possible exception is the 2-ID soft x-ray program
- Although priority given to “Very Strongly Recommended” proposals, the roadmap includes provisions for **all** beamlines approved by the APS SAC Scientific Review
 - Scenarios should reflect rankings of the APS-U proposals
- Minimizes disruption or relocation of existing CAT or XSD beamlines
- Considers most efficient use of resources



Assumptions

- SPX related beamlines located at sectors 6 and 7
 - Support building 400A for SPX is located adjacent those sectors
 - Other locations have been considered, but do not work as well
- 18, 19, 20-ID are viable locations for very long beamlines
 - > 200 m beamline (WFI)
- The 35-ID ASD Diagnostics program could be relocated and 35-ID repurposed for a different beamline program

Scenario Notes

- Only ID beamlines are discussed in these scenarios
 - The location of bending magnet beamlines is not as constrained and is not considered difficult
- ID beamlines not considered for change in the roadmap
 - 1, 3, 5, 6, 7, 11, 12, 13, 14, 16, 21, 23, 24, 26, 29
 - Generally, already canted, fixed by the SPX, or flux driven programs
- ID beamlines held for future development
 - 8, 10, 17, 22, 31, 33
 - Generally, uncanted beamlines, that could potentially be canted in the future



SAC Ratings: Very Strongly Recommended

~~Not funded by the APS-U: Biology/Life Sciences beamline. Would be placed on the development options beamline.~~
~~APS-U: Biology/Life Sciences beamline. Would be placed on the development options beamline.~~

CDR Number	Proposal Title	Acronym
4.2.2	SPX Facility Hard X-ray Diffraction and Imaging	SPXIM
4.2.2	SPX Facility Hard X-ray Spectroscopy	SPXSS
4.3.2	Wide-Field Imaging Beamline	WFI
4.3.4	High-Energy Tomography – BM beamline	HEXT
4.3.7, 4.3.8	In-situ Nanoprobe/Cryonanoprobe (NGN)	INP
4.4.4	Resonant Inelastic X-ray Scattering (MERIX)	RIXS
4.5.4	High-Energy Diffraction (in-place upgrade at 1-ID)	HEXD
4.5.5	Magnetic Spectroscopy	MS-S (soft) MS-H (hard)
4.6.2	X-ray Interface Science (XIS) – Tunable ID Beamline	XIS-T
4.6.4	Micro and 3D Diffraction	S3DD
4.7.3	Cryo Sample Preparation Facility	
4.7.4	Enhanced SAXS/WAXS	ESW
4.7.5	Microfocus MX Beamline	MMX
4.7.6	Enhanced Pump/Probe for Physical Sciences (in place at 14-ID)	HFPP
4.7.6	Enhanced Time-Resolved MX Beamline (in place at at 14-ID)	TRMX



SAC Ratings: Strongly Recommended

Not funded by the APS-U: Biology/Life Sciences beamline. Would be
 placed on future development options beamline.

CDR Number	Proposal Title	Acronym
4.2.2	SPX Facility Soft X-ray Beamline – BM beamline	SPSXS
4.3.3, 4.3.7	TXM (in place at 32-ID)	TXM
4.3.5	XPCS and Coherent GIXS (in place at 8-ID)	XPCS-CGIXS
4.3.6	Fluid Dynamics Imaging Beamline - BM beamline	FSD
4.4.2	Advanced Spectroscopy Beamline	ASL
4.4.3	LERIX-2 Beamline	ASL
4.5.2	High Magnetic Field Scattering	MD
4.5.3	High Pressure Studies Using Sub-micron Beams (in place at 16-ID)	HP
4.6.2	XIS – Fixed Angle ID Beamlines	XIS-FA
4.6.5	Resonant Interface Scattering (in place at 33-ID)	RIS
4.7.2	BioNanoprobe	BNP
4.x.x	Extended Wavelength Range MX Beamline	EWMX



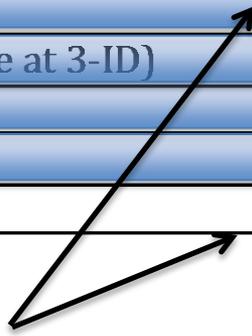
SAC Ratings: Recommended

Weighting aggregated claim place

CDR Number	Proposal Title	Acronym
4.2.3	Laser Initiated Time Resolved XAFS/WAXS (in place at 11-ID)	TR-XAFS
4.3.2, 4.3.3	High Speed Imaging (in place at 32-ID)	HSI
4.3.3	Coherent Diffraction Imaging	BCDI
4.4.5	HERIX (in place at 30-ID)	HERIX
4.4.6	Nuclear Resonant Scattering (in place at 3-ID)	NRS
4.4.7	Catalyst Center - BM Beamline	CC
4.6.2	XIS - BM Beamline	XIS-BM
4.6.3	Liquid Surface Scattering	XSD LSS



Roadmap relevant



Summary of Programs Involved in the Roadmap Process

Proposal Title	Acronym	Status
Dynamic Compression Sector	DCS	New beamline
In-situ Nanoprobe/Cryonanoprobe (NGN)	INP	APS-U new beamline
Magnetic Spectroscopy	MS-S (soft) MS-H (hard)	APS-U Upgrade Technical issues may force MS-S to move
Resonant Inelastic X-ray Scattering (MERIX)	RIXS	APS-U new beamline
Micro and 3D Diffraction	S3DD micro S3DD nano	APS-U new beamline
Wide-Field Imaging Beamline	WFI	APS-U new beamline
X-ray Interface Science – Tunable ID Beamline	XIS-T	APS-U new beamline
Accelerator Diagnostics (35-ID)	ASD-D	Possible relocation
Advanced Spectroscopy/LERIX-2 (20-ID)	ASL	Possible relocation
Coherent Diffraction Imaging (34-ID)	BCDI	Possible relocation
BIO-CAT (18-ID)	BIO	Possible relocation
High Magnetic Field Scattering (6-ID)	MD	Possible relocation
SBC-CAT (19-ID)	SBC	Possible relocation
Liquid Surface Scattering (9-ID)	XSD LSS	Possible relocation
XSD microdiffraction (2-ID)	XSD mDiff	Possible merger into S3DD
XSD microfluorescence (2-ID-D/E)	XSD mFluor	Possible relocation



Scenario Example

- Scenario A will be used as an example for the scenario building process
- Selections for Scenario A will be in **blue**
- At this point, there is not a preferred scenario
 - The order (A to J) is not by preference

Scenario Building–Step 1: Template

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			
2-ID-2					
4-ID-1	XSD	C: MS-S			
4-ID-2	XSD	D: MS-H/MD			
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff			
19-ID-1	SBC-CAT	MX			
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX			
20-ID-2					
25-ID-1					
25-ID-2					
27-ID-1					
27-ID-2					
28-ID-1					
28-ID-2					
30-ID-1	XSD	HERIX/MERIX			
32-ID-1	XSD	WFI/TXM/HSI			
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D			
35-ID-2		ASD-CTS			

- Only “in play” IDs shown
- Gray is currently undeveloped beamline (including possible cants)

Scenario Building–Step 2: Select Fixed Points

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			
2-ID-2			DCS		ASL
4-ID-1	XSD	C: MS-S			
4-ID-2	XSD	D: MS-H/MD	INP		BCDI
6-ID-1	XSD	B: MD/Diff C: SS D: HEX	MS-S		BIO
9-ID-1	XSD	MERIX LSS	RIXS		MD
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS	S3DD micro		SBC
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS	S3DD nano		XSD LSS
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	WFI		XSD mDiff
19-ID-1	SBC-CAT	MX			
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	XIS		XSD mFluor
20-ID-2					
25-ID-1					
25-ID-2					
27-ID-1					
27-ID-2			ASD-D -> 30-ID		
28-ID-1					
28-ID-2					
30-ID-1	XSD	HERIX/MERIX			
32-ID-1	XSD	WFI/TXM/HSI			
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D			
35-ID-2		ASD-CTS			

Scenario Building–Step 2: Select Fixed Points

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			<p><u>Magnetic Spectroscopy (MS)</u></p> <ul style="list-style-type: none"> • Currently at 4-ID, two programs <ul style="list-style-type: none"> – “Hard” -> MS-H – “Soft” (500 eV to 4 keV) -> MS-S • Upgrade of MS-H includes installation of APPLE undulator <ul style="list-style-type: none"> – Concerns by accelerator physicists that another ID in the same straight section will cause problems for accelerator operations – Issues still being studied – Additionally, there is proposal for second APPLE in tandem for fast polarization switching • MS-H stays at 4-ID in all cases
2-ID-2					
4-ID-1	XSD	C: MS-S			
4-ID-2	XSD	D: MS-H/MD			
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff			
19-ID-1	SBC-CAT	MX			
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX			
20-ID-2					
25-ID-1					
25-ID-2					
27-ID-1					
27-ID-2					
28-ID-1					
28-ID-2					
30-ID-1	XSD	HERIX/MERIX			
32-ID-1	XSD	WFI/TXM/HSI			
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D			
35-ID-2		ASD-CTS			

Scenario Building–Step 2: Select Fixed Points

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			
2-ID-2			DCS		ASL
4-ID-1	XSD	C: MS-S	INP		BCDI
4-ID-2	XSD	D: MS-H/MD			
6-ID-1	XSD	B: MD/Diff C: SS D: HEX	MS-S		BIO
9-ID-1	XSD	MERIX LSS	RIXS		MD
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS	S3DD micro		SBC
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS	S3DD nano		XSD LSS
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	WFI		XSD mDiff
19-ID-1	SBC-CAT	MX			
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	XIS		XSD mFluor
20-ID-2					
25-ID-1					
25-ID-2					
27-ID-1					
27-ID-2			ASD-D -> 30-ID		
28-ID-1					
28-ID-2					
30-ID-1	XSD	HERIX/MERIX			
32-ID-1	XSD	WFI/TXM/HSI			
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D			
35-ID-2		ASD-CTS			

Scenario Building–Step 2: Select Fixed Points

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			<p><u>Dynamic Compression Sector (DCS)</u></p> <ul style="list-style-type: none"> • Not APS-U <ul style="list-style-type: none"> – Funded by DOE NNSA – Drivers will not shake the area around it • On “fast track” <ul style="list-style-type: none"> – Needs siting decision in the next couple months • Phase II may require expansion outside standard sector boundaries • Only viable options <ul style="list-style-type: none"> – Open sectors: 25-ID, 27-ID, 28-ID – 35-ID
2-ID-2					
4-ID-1	XSD	C: MS-S			
4-ID-2	XSD	D: MS-H/MD			
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff			
19-ID-1	SBC-CAT	MX			
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX			
20-ID-2					
25-ID-1					
25-ID-2					
27-ID-1					
27-ID-2					
28-ID-1					
28-ID-2					
30-ID-1	XSD	HERIX/MERIX			
32-ID-1	XSD	WFI/TXM/HSI			
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D			
35-ID-2		ASD-CTS			

Scenario Building–Step 2: Select Fixed Points

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			
2-ID-2			DCS		ASL
4-ID-1	XSD	C: MS-S	INP		BCDI
4-ID-2	XSD	D: MS-H/MD	MS-S -> 4-ID		BIO
6-ID-1	XSD	B: MD/Diff C: SS D: HEX	RIXS		MD
9-ID-1	XSD	MERIX LSS	S3DD micro		SBC
9-ID-2			S3DD nano		XSD LSS
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS	WFI		XSD mDiff
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS	XIS		XSD mFluor
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff			
19-ID-1	SBC-CAT	MX			
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX			
20-ID-2					
25-ID-1					
25-ID-2					
27-ID-1			ASD-D -> 30-ID		
27-ID-2					
28-ID-1					
28-ID-2					
30-ID-1	XSD	HERIX/MERIX			
32-ID-1	XSD	WFI/TXM/HSI			
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D			
35-ID-2		ASD-CTS			

ASL

BCDI

BIO

MD

SBC

XSD LSS

XSD mDiff

XSD mFluor

Scenario Building–Step 2: Select Fixed Points

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			<p><u>Resonant Inelastic X-ray Scattering (RIXS)</u></p> <ul style="list-style-type: none"> • Merger of 9-ID, 30-ID MERIX programs • Flux starved, needs entire straight section • Experimental station is as close to the source as possible • Good candidate for greenfield site <ul style="list-style-type: none"> – Uses little of existing 9-ID infrastructure – HERIX at 30-ID would be hard to move – 25-ID, 27-ID, 28-ID – Works well next to XIS or DCS due to lateral space issues
2-ID-2					
4-ID-1	XSD	C: MS-S			
4-ID-2	XSD	D: MS-H/MD			
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff			
19-ID-1	SBC-CAT	MX			
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX			
20-ID-2					
25-ID-1					
25-ID-2					
27-ID-1					
27-ID-2					
28-ID-1					
28-ID-2					
30-ID-1	XSD	HERIX/MERIX			
32-ID-1	XSD	WFI/TXM/HSI			
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D			
35-ID-2		ASD-CTS			

Scenario Building–Step 2: Select Fixed Points

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			
2-ID-2					
4-ID-1	XSD	C: MS-S			
4-ID-2	XSD	D: MS-H/MD			
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff			
19-ID-1	SBC-CAT	MX			
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX			
20-ID-2					
25-ID-1					
25-ID-2					
27-ID-1					
27-ID-2					
28-ID-1					
28-ID-2					
30-ID-1	XSD	HERIX/MERIX			
32-ID-1	XSD	WFI/TXM/HSI			
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D			
35-ID-2		ASD-CTS			

DCS -> 35-ID

ASL

INP

BCDI

MS-S -> 4-ID

BIO

RIXS

MD

S3DD micro

SBC

S3DD nano

XSD LSS

WFI

XSD mDiff

XIS

XSD mFluor

ASD-D -> 30-ID

Scenario Building–Step 2: Select Fixed Points

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			<h2><u>X-ray Interface Science (XIS)</u></h2> <ul style="list-style-type: none"> • Two parts <ul style="list-style-type: none"> – XIS-T -> Tuneable beamline – XIS-FA -> Three fixed angle beamlines • XIS-FA is contingent additional scope <ul style="list-style-type: none"> – Siting, preliminary design done with XIS-T • Beamline would be canted with both branches used by XIS • Beamline XIS-FA plans expand outside standard sector boundaries • Would use little infrastructure of any existing beamline <ul style="list-style-type: none"> – Most likely sited to green field location – 27-ID, 28-ID – 25-ID not as good due to CNM building being adjacent
2-ID-2					
4-ID-1	XSD	C: MS-S			
4-ID-2	XSD	D: MS-H/MD			
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff			
19-ID-1	SBC-CAT	MX			
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LEXIS			
20-ID-2					
25-ID-1					
25-ID-2					
27-ID-1					
27-ID-2					
28-ID-1					
28-ID-2					
30-ID-1	XSD	HERIX/MERIX			
32-ID-1	XSD	WFI/TXM/HSI			
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D			
35-ID-2		ASD-CTS			

Scenario Building–Step 2: Select Fixed Points

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			
2-ID-2					
4-ID-1	XSD	C: MS-S			
4-ID-2	XSD	D: MS-H/MD			
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff			
19-ID-1	SBC-CAT	MX			
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX			
20-ID-2					
25-ID-1					
25-ID-2					
27-ID-1					
27-ID-2					
28-ID-1					
28-ID-2					
30-ID-1	XSD	HERIX/MERIX			
32-ID-1	XSD	WFI/TXM/HSI			
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D			
35-ID-2		ASD-CTS			

DCS -> 35-ID

ASL

INP

BCDI

MS-S -> 4-ID

BIO

RIXS -> 27-ID

MD

S3DD micro

SBC

S3DD nano

XSD LSS

WFI

XSD mDiff

XIS

XSD mFluor

ASD-D -> 30-ID



Scenario Building–Step 2: Select Fixed Points

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			
2-ID-2					
4-ID-1	XSD	C: MS-S	No Change		
4-ID-2	XSD	D: MS-H/MD	No Change		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff			
19-ID-1	SBC-CAT	MX			
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX			
20-ID-2					
25-ID-1					
25-ID-2					
27-ID-1			RIXS	new beamline	
27-ID-2					
28-ID-1			XIS-1	new beamline	Location next to RIXS may allow lateral expansion towards 27-ID
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI			
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	

Scenario Building–Step 3: Long Beamline

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			
2-ID-2					
4-ID-1	XSD	C: MS-S	No Cha		
4-ID-2	XSD	D: MS-H/MD	No Cha		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff			
19-ID-1	SBC-CAT	MX			
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX			
20-ID-2					
25-ID-1					
25-ID-2					
27-ID-1			RIXS	new beamline	
27-ID-2					
28-ID-1			XIS-1	new beamline	Location next to RIXS may allow lateral expansion towards 27-ID
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI			
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	

DCS -> 35-ID

ASL

INP

BCDI

MS-S -> 4-ID

BIO

RIXS -> 27-ID

MD

S3DD micro

SBC

S3DD nano

XSD LSS

WFI

XSD mDiff

XIS -> 28-ID

XSD mFluor



Scenario Building–Step 3: Long Beamline

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			<u>Wide Field Imaging (WFI)</u> <ul style="list-style-type: none"> • Long beamline, > 200 m • No cant, no long straight section due to RHB • 18-ID, 19-ID, 20-ID best locations for long beamline <ul style="list-style-type: none"> – 18-ID (BIO-CAT) <ul style="list-style-type: none"> • Not as good as others • Would separate 19-ID from the ACPF • Goes through the most LOM office space – 19-ID (SBC-CAT) – 20-ID (XSD EXAFS/LERIX -> APS-U ASL)
2-ID-2					
4-ID-1	XSD	C: MS-S	No Change		
4-ID-2	XSD	D: MS-H/MD	No Change		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff			
19-ID-1	SBC-CAT	MX			
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX			
20-ID-2					
25-ID-1					
25-ID-2					
27-ID-1			RIXS		
27-ID-2					
28-ID-1			XIS-1		
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI			
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	

Scenario Building–Step 3: Long Beamline

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			<p>SBC-CAT</p> <ul style="list-style-type: none"> • Would be relocated to allow WFI to have long beamline site • Needs to stay near current 19-ID location for proximity to new building (APCF) <p>BIO-CAT</p> <ul style="list-style-type: none"> • Would be relocated to allow WFI to have long beamline site • BIO-CAT and SBC-CAT have very similar layouts
2-ID-2					
4-ID-1	XSD	C: MS-S	No Change		
4-ID-2	XSD	D: MS-H/MD	No Change		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff			
19-ID-1	SBC-CAT	MX			
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX			
20-ID-2					
25-ID-1					
25-ID-2					
27-ID-1			RIXS	new beamline	
27-ID-2					
28-ID-1			XIS-1	new beamline	Location next to RIXS may allow lateral expansion towards 27-ID
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI			
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	



Scenario Building–Step 3: Long Beamline

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			<u>Advanced Spectroscopy and LERIX (ASL)</u> <ul style="list-style-type: none"> • Separate SAC proposals treated together by APS-U/Roadmap • APS-U contingent additional scope • Upgrade of two current 20-ID programs • Would cant 20-ID, with branch of each program • May need to relocate due to WFI
2-ID-2					
4-ID-1	XSD	C: MS-S	No Change		
4-ID-2	XSD	D: MS-H/MD	No Change		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff			
19-ID-1	SBC-CAT	MX			
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX			
20-ID-2					
25-ID-1					
25-ID-2					
27-ID-1			RIXS	new beamline	
27-ID-2					
28-ID-1			XIS-1	new beamline	Location next to RIXS may allow lateral expansion towards 27-ID
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI			
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	



Scenario Building–Step 3: Long Beamline

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			<u>Wide Field Imaging (WFI)</u> <ul style="list-style-type: none"> Options <ul style="list-style-type: none"> – 18-ID – 19-ID – 20-ID
2-ID-2					
4-ID-1	XSD	C: MS-S	No Change		
4-ID-2	XSD	D: MS-H/MD	No Change		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff			
19-ID-1	SBC-CAT	MX			
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX			
20-ID-2					
25-ID-1					
25-ID-2					
27-ID-1			RIXS	new beamline	
27-ID-2					
28-ID-1			XIS-1	new beamline	Location next to RIXS may allow lateral expansion towards 27-ID
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI			
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	



Scenario Building–Step 3: Long Beamline

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			
2-ID-2					
4-ID-1	XSD	C: MS-S	No Cha		
4-ID-2	XSD	D: MS-H/MD	No Cha		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff			
19-ID-1	SBC-CAT	MX			
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX			
20-ID-2					
25-ID-1					
25-ID-2					
27-ID-1			RIXS	new beamline	
27-ID-2			ASD-D	-> 30-ID	
28-ID-1			XIS-1	new beamline	Location next to RIXS may allow lateral expansion towards 27-ID
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI			
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	

DCS -> 35-ID

ASL -> 25-ID

INP

BCD

MS-S -> 4-ID

BIO

RIXS -> 27-ID

~~MD~~

S3DD micro

SBC

S3DD nano

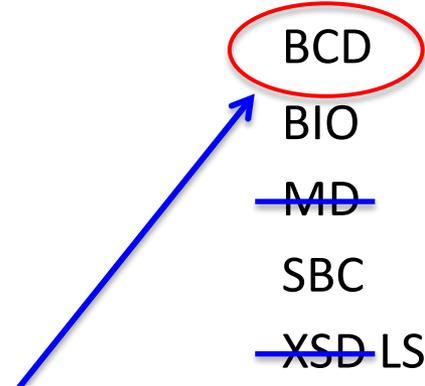
~~XSD LSS~~

WFI ->

XSD mDiff

XIS -> 28-ID

XSD mFluor



Scenario Building–Step 3: Long Beamline

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			
2-ID-2					
4-ID-1	XSD	C: MS-S	No Change		
4-ID-2	XSD	D: MS-H/MD	No Change		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	No Change		
19-ID-1	SBC-CAT	MX	No Change		
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	WFI	ASL->25-ID	
20-ID-2					
25-ID-1			ASL-1	new beamline	
25-ID-2			ASL-2	new cant	
27-ID-1			RIXS	new beamline	
27-ID-2					
28-ID-1			XIS-1	new beamline	Location next to RIXS may allow lateral expansion towards 27-ID
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI	TXM/HSI	WFI->20-ID	
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	

Scenario Building–Step 4: 34-ID

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			
2-ID-2					
4-ID-1	XSD	C: MS-S	No Cha		
4-ID-2	XSD	D: MS-H/MD	No Cha		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	No Cha		
19-ID-1	SBC-CAT	MX	No Cha		
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	WFI		
20-ID-2					
25-ID-1			ASL-1		
25-ID-2			ASL-2		
27-ID-1			RIXS	new beamline	
27-ID-2					
28-ID-1			XIS-1	new beamline	Location next to RIXS may allow lateral expansion towards 27-ID
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI	TXM/HSI	WFI->20-ID	
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	

DCS -> 35-ID

ASL -> 25-ID

INP

BCDI

MS-S -> 4-ID

BIO

RIXS -> 27-ID

~~MD~~

S3DD micro

S3DD nano

SBC

~~XSD LSS~~

WFI -> 20-ID

XSD mDiff

XIS -> 28-ID

XSD mFluor

ASD-D -> 30-ID



Scenario Building–Step 4: 34-ID

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			<p><u>Micro and 3D Diffraction (S3DD)</u></p> <ul style="list-style-type: none"> • Three parts <ul style="list-style-type: none"> – Upgrade of current 34-ID 3DXRD microscope (S3DD micro) – On other branch of 34-ID <ul style="list-style-type: none"> • New “nano” diffraction microscope (S3DD nano) • Relocation of current 2-ID microdiffraction program (XSD mDiff) • Would require relocation of current 34-ID Bragg CDI program (BCDI) • Benefits XSD mFluor program at 2-ID
2-ID-2					
4-ID-1	XSD	C: MS-S	No Change		
4-ID-2	XSD	D: MS-H/MD	No Change		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	No Change		
19-ID-1	SBC-CAT	MX	No Change		
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	WFI		
20-ID-2					
25-ID-1			ASL-1		
25-ID-2			ASL-2		
27-ID-1			RIXS		
27-ID-2					
28-ID-1			XIS-1		
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI	TXM/HSI	WFI->20-ID	
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	

Scenario Building–Step 4: 34-ID

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			<u>XSD microDiffraction (mDiff)</u> <ul style="list-style-type: none"> • Currently at 2-ID • 50% usage of 2-ID-D • Proposed merge into S3DD
2-ID-2					
4-ID-1	XSD	C: MS-S	No Change		
4-ID-2	XSD	D: MS-H/MD	No Change		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	No Change		
19-ID-1	SBC-CAT	MX	No Change		
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	WFI	ASL->25-ID	
20-ID-2					
25-ID-1			ASL-1	new beamline	
25-ID-2			ASL-2	new cant	
27-ID-1			RIXS	new beamline	
27-ID-2					
28-ID-1			XIS-1	new beamline	Location next to RIXS may allow lateral expansion towards 27-ID
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI	TXM/HSI	WFI->20-ID	
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	

Scenario Building–Step 4: 34-ID

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			<u>Bragg Coherent Diffractive Imaging</u> <ul style="list-style-type: none"> • Current 34-ID-1 • 100% usage of branch • If moved <ul style="list-style-type: none"> – Branch beamline – Several possible – Synergy with 32-ID programs
2-ID-2					
4-ID-1	XSD	C: MS-S	No Change		
4-ID-2	XSD	D: MS-H/MD	No Change		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	No Change		
19-ID-1	SBC-CAT	MX	No Change		
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	WFI	ASL->25-ID	
20-ID-2					
25-ID-1			ASL-1	new beamline	
25-ID-2			ASL-2	new cant	
27-ID-1			RIXS	new beamline	
27-ID-2					
28-ID-1			XIS-1	new beamline	Location next to RIXS may allow lateral expansion towards 27-ID
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI	TXM/HSI	WFI->20-ID	
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	

Scenario Building–Step 4: 34-ID

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			
2-ID-2					
4-ID-1	XSD	C: MS-S	No Change		
4-ID-2	XSD	D: MS-H/MD	No Change		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	No Change		
19-ID-1	SBC-CAT	MX	No Change		
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	WFI		
20-ID-2					
25-ID-1			ASL-1		
25-ID-2			ASL-2		
27-ID-1			RIXS		
27-ID-2					
28-ID-1			XIS-1		
28-ID-2			XIS-2		
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	HERIX/RIXS/27-ID	
32-ID-1	XSD	WFI/TXM/HSI	TXM/HSI	WFI->20-ID	
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	

34-ID Options

- S3DD expands to all of 34-ID
 - S3DD micro stays at 34-ID-2
 - S3DD nano goes to 34-ID-1
 - XSD mDiff goes to 34-ID-1
 - BCDI -> moves
- Reduced S3DD scope
 - S3DD micro/nano both on 34-ID-2
 - XSD mDiff stays at 2-ID
 - BCDI stays at 34-ID-2
- Move S3DD to new location
 - BCDI would stay at 34-ID

Scenario Building–Step 4: 34-ID

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			
2-ID-2					
4-ID-1	XSD	C: MS-S	No Cha		
4-ID-2	XSD	D: MS-H/MD	No Cha		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	No Cha		
19-ID-1	SBC-CAT	MX	No Cha		
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	WFI		
20-ID-2					
25-ID-1			ASL-1		
25-ID-2			ASL-2		
27-ID-1			RIXS	new beamline	
27-ID-2			ASD-D -> 30-ID		
28-ID-1			XIS-1	new beamline	Location next to RIXS may allow lateral expansion towards 27-ID
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI	TXM/HSI	WFI->20-ID	
32-ID-2					
34-ID-1	XSD	BCDI			
34-ID-2	XSD	3DXRD			
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	

DCS -> 35-ID

ASL -> 25-ID

BCDI -> 32-ID-2

BIO

~~MD~~

S3DD micro

SBC

~~XSD LSS~~

WFI -> 20-ID

XSD mDiff -> 34-ID-1

XIS -> 28-ID

XSD mFluc

Scenario Building–Step 4: 34-ID

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			
2-ID-2					
4-ID-1	XSD	C: MS-S	No Change		
4-ID-2	XSD	D: MS-H/MD	No Change		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	No Change		
19-ID-1	SBC-CAT	MX	No Change		
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	WFI	ASL->25-ID	
20-ID-2					
25-ID-1			ASL-1	new beamline	
25-ID-2			ASL-2	new cant	
27-ID-1			RIXS	new beamline	
27-ID-2					
28-ID-1			XIS-1	new beamline	Location next to RIXS may allow lateral expansion towards 27-ID
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI	TXM/HSI	WFI->20-ID	
32-ID-2			BCDI	new cant	
34-ID-1	XSD	BCDI	S3DD nano/XSD mDiff	BCDI->32-ID	
34-ID-2	XSD	3DXRD	S3DD micro	3DXRD->S3DD	
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	

Scenario Building–Step 5: XSD LSS, MD, INP

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			
2-ID-2					
4-ID-1	XSD	C: MS-S	No Cha		
4-ID-2	XSD	D: MS-H/MD	No Cha		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	No Cha		
19-ID-1	SBC-CAT	MX	No Cha		
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	WFI		
20-ID-2					
25-ID-1			ASL-1		
25-ID-2			ASL-2		
27-ID-1			RIXS	new beamline	
27-ID-2			ASD-D	new beamline	
28-ID-1			XIS-1	new beamline	Location next to RIXS may allow lateral expansion towards 27-ID
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI	TXM/HSI	WFI->20-ID	
32-ID-2			BCDI	new cant	
34-ID-1	XSD	BCDI	S3DD nano/XSD mDiff	BCDI->32-ID	
34-ID-2	XSD	3DXRD	S3DD micro	3DXRD->S3DD	
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	

DCS -> 35-ID

ASL -> 25-ID

INP

BCDI -> 32-ID-2

MS-S -> 4-ID

BIO

RIXS -> 27-ID

~~MD~~

S3DD micro -> 34-ID-2

SBC

S3DD nano -> 34-ID-1

~~XSD LSS~~

WFI -> 20-ID

XSD mDiff -> 34-ID-1

XIS -> 28-ID

XSD mFluor

Scenario Building–Step 5: XSD LSS, MD, INP

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			<h3><u>XSD Liquid Surface Scattering (XSD LSS)</u></h3> <ul style="list-style-type: none"> • Currently at 9-ID • 50% usage with 9-ID MERIX • With move of MERIX, 9-ID may be repurposed • 9-ID appears well suited for canting • Options <ul style="list-style-type: none"> – Move to 15-ID <ul style="list-style-type: none"> • New cant • XSD/CARS partnership • Details have not been decided – Become part of XIS <ul style="list-style-type: none"> – 9-ID on a cant – 25-ID on a cant – 27-ID on a cant – 28-ID on a cant
2-ID-2					
4-ID-1	XSD	C: MS-S	No Change		
4-ID-2	XSD	D: MS-H/MD	No Change		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	No Change		
19-ID-1	SBC-CAT	MX	No Change		
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	WFI		
20-ID-2					
25-ID-1			ASL-1		
25-ID-2			ASL-2		
27-ID-1			RIXS		
27-ID-2					
28-ID-1			XIS-1		
28-ID-2			XIS-2		
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D		
32-ID-1	XSD	WFI/TXM/HSI	TXM/HSI		
32-ID-2			BCDI		
34-ID-1	XSD	BCDI	S3DD nano/XSD mDiff		
34-ID-2	XSD	3DXRD	S3DD micro	3DXRD->S3DD	
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	



Scenario Building–Step 5: XSD LSS, MD, INP

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			<h2><u>High Magnetic Field Scattering (MD)</u></h2> <ul style="list-style-type: none"> • Currently at 6-ID <ul style="list-style-type: none"> – APS-U contingent additional scope • 6-ID SPX beamline forces a move of the 6-ID MD program • Probably will be on canted branch beamline <ul style="list-style-type: none"> – Large magnets require significant room at sample position • Options <ul style="list-style-type: none"> – 9-ID on a cant – 25-ID on a cant – 27-ID on a cant – 28-ID on a cant – 2-ID on a cant (would require XSD mFluor to relocate)
2-ID-2					
4-ID-1	XSD	C: MS-S	No Change		
4-ID-2	XSD	D: MS-H/MD	No Change		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	No Change		
19-ID-1	SBC-CAT	MX	No Change		
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	WFI		
20-ID-2					
25-ID-1			ASL-1		
25-ID-2			ASL-2		
27-ID-1			RIXS		
27-ID-2					
28-ID-1			XIS-1		
28-ID-2			XIS-2		
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D		
32-ID-1	XSD	WFI/TXM/HSI	TXM/HSI		
32-ID-2			BCDI		
34-ID-1	XSD	BCDI	S3DD nano/XSD mDiff		
34-ID-2	XSD	3DXRD	S3DD micro	3DXRD->S3DD	
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	

Scenario Building–Step 5: XSD LSS, MD, INP

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			<u>In-situ Nanoprobe (ISN)</u> <ul style="list-style-type: none"> Nanoprobe for microfocusing Most likely on a canted beamline Benefit to being as long as the standard sector layout allows Some synergy for siting with 2-ID microprobe <ul style="list-style-type: none"> In place at 2-ID would use little current infrastructure
2-ID-2					
4-ID-1	XSD	C: MS-S	No Change		
4-ID-2	XSD	D: MS-H/MD	No Change		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	No Change		
19-ID-1	SBC-CAT	MX	No Change		
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	WFI		
20-ID-2					
25-ID-1			ASL-1	new beamline	
25-ID-2			ASL-2	new cant	
27-ID-1			RIXS	new beamline	
27-ID-2					
28-ID-1			XIS-1	new beamline	Location next to RIXS may allow lateral expansion towards 27-ID
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI	TXM/HSI	WFI->20-ID	
32-ID-2			BCDI	new cant	
34-ID-1	XSD	BCDI	S3DD nano/XSD mDiff	BCDI->32-ID	
34-ID-2	XSD	3DXRD	S3DD micro	3DXRD->S3DD	
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	



Scenario Building–Step 5: XSD LSS, MD, INP

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			<p><u>XSD microfluorescence (mFluor)</u></p> <ul style="list-style-type: none"> • Currently at 2-ID • 50% usage of 2-ID-D • Full use of 2-ID-E side station (Sometimes parasitic with 2-ID-D ID usage, sometimes using 2-ID-B ID) • Move considered to capture synergy with INP
2-ID-2					
4-ID-1	XSD	C: MS-S	No Change		
4-ID-2	XSD	D: MS-H/MD	No Change		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	No Change		
19-ID-1	SBC-CAT	MX	No Change		
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	WFI	ASL->25-ID	
20-ID-2					
25-ID-1			ASL-1	new beamline	
25-ID-2			ASL-2	new cant	
27-ID-1			RIXS	new beamline	
27-ID-2					
28-ID-1			XIS-1	new beamline	
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	Location next to RIXS may allow lateral expansion towards 27-ID
32-ID-1	XSD	WFI/TXM/HSI	TXM/HSI	WFI->20-ID	
32-ID-2			BCDI	new cant	
34-ID-1	XSD	BCDI	S3DD nano/XSD mDiff	BCDI->32-ID	
34-ID-2	XSD	3DXRD	S3DD micro	3DXRD->S3DD	
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	



Scenario Building–Step 5: XSD LSS, MD, INP

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			<u>In-situ Nanoprobe (ISN)</u> <ul style="list-style-type: none"> Options <ul style="list-style-type: none"> 2-ID on a cant with XSD mFluor 9-ID on a cant 25-ID on a cant 27-ID on a cant 28-ID on a cant
2-ID-2					
4-ID-1	XSD	C: MS-S	No Change		
4-ID-2	XSD	D: MS-H/MD	No Change		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	No Change		
19-ID-1	SBC-CAT	MX	No Change		
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	WFI	ASL->25-ID	
20-ID-2					
25-ID-1			ASL-1	new beamline	
25-ID-2			ASL-2	new cant	
27-ID-1			RIXS	new beamline	
27-ID-2					
28-ID-1			XIS-1	new beamline	Location next to RIXS may allow lateral expansion towards 27-ID
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI	TXM/HSI	WFI->20-ID	
32-ID-2			BCDI	new cant	
34-ID-1	XSD	BCDI	S3DD nano/XSD mDiff	BCDI->32-ID	
34-ID-2	XSD	3DXRD	S3DD micro	3DXRD->S3DD	
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	

Scenario Building–Step 5: XSD LSS, MD, INP

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor			
2-ID-2					
4-ID-1	XSD	C: MS-S	No Cha		
4-ID-2	XSD	D: MS-H/MD	No Cha		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX			
9-ID-1	XSD	MERIX LSS			
9-ID-2					
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS			
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS			
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	No Cha		
19-ID-1	SBC-CAT	MX	No Cha		
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	WFI		
20-ID-2					
25-ID-1			ASL-1		
25-ID-2			ASL-2		
27-ID-1			RIXS	new beamline	
27-ID-2			ASD-D	ASD-D -> 30-ID	
28-ID-1			XIS-1	new beamline	Location next to RIXS may allow lateral expansion towards 27-ID
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI	TXM/HSI	WFI->20-ID	
32-ID-2			BCDI	new cant	
34-ID-1	XSD	BCDI	S3DD nano/XSD mDiff	BCDI->32-ID	
34-ID-2	XSD	3DXRD	S3DD micro	3DXRD->S3DD	
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	

DCS -> 35-ID
 INP
 MS-S -> 4-ID
 RIXS -> 27-ID
 S3DD micro -> 34-ID-2
 S3DD nano -> 34-ID-1
 WFI -> 20-ID
 XIS -> 28-ID

ASL -> 25-ID
 BCDI -> 32-ID-2
 BIO
~~MD -> 9-ID-2~~
 SBC
~~XSD LSS -> 9-ID-1~~
 XSD mDi
 XSD mFluor -> 2-ID-2

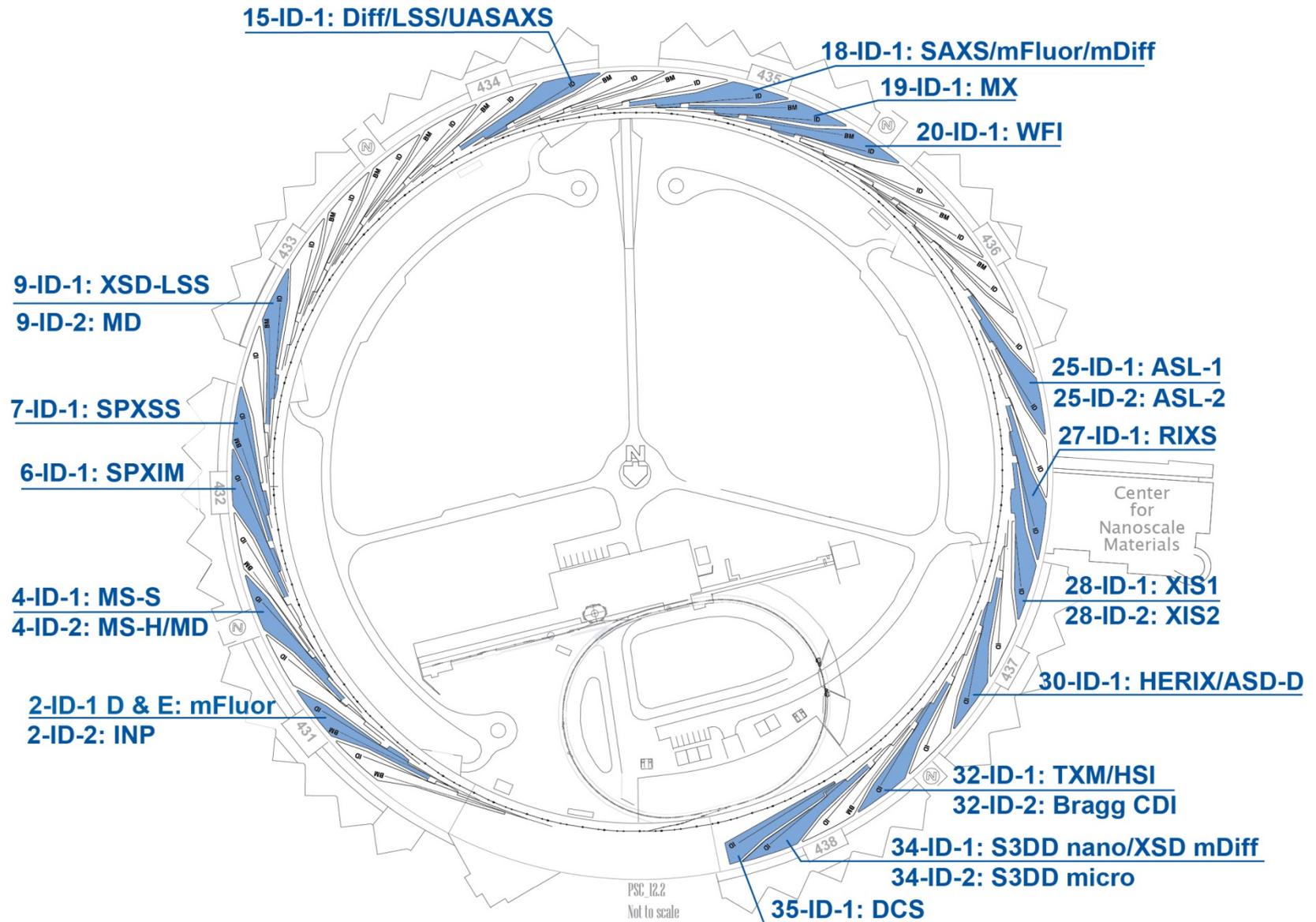
Scenario Building–Step 5: XSD LSS, MD, INP

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor	D: mFluor E: mFluor	B: sCDI/smFluor eliminated XSD mDiff->34-ID new cant	Would require to reconstruct most of 2-ID
2-ID-2			INP		
4-ID-1	XSD	C: MS-S	no change		
4-ID-2	XSD	D: MS-H/MD	no change		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX	SPXIM	MD/Diff->MD SS->XIS HEX->HEXD->1-ID	Assumes 5-ID, 7-ID crab cavity placement. MD & Diff programs merged into MD upgrade. HEX merged into 1-ID HEXD upgrade.
9-ID-1	XSD	MERIX LSS	XSD-LSS	MERIX->RIXS->27-ID	
9-ID-2			MD	new cant	
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS	unchanged		
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS	unchanged		
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	unchanged		
19-ID-1	SBC-CAT	MX	unchanged		
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	WFI	ASL->25-ID	
20-ID-2					
25-ID-1			ASL-1	new beamline	
25-ID-2			ASL-2	new cant	
27-ID-1			RIXS	new beamline	
27-ID-2					
28-ID-1			XIS-1	new beamline	Location next to RIXS may allow lateral expansion towards 27-ID.
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI	TXM/HSI	WFI->20-ID	
32-ID-2			BCDI	new cant	
34-ID-1	XSD	BCDI	S3DD nano/XSD mDiff	BCDI->32-ID	
34-ID-2	XSD	3DXRD	S3DD micro	3DXRD->S3DD	
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	DCS will use two IDs and take up straight section space occupied by current transformer/stripline

Scenario A

Beamline	Operator	Current Program	New Program	Old Program Status	Note
2-ID-1	XSD	B: sCDI/smFluor D: mDiff/mFluor E: mFluor	D: mFluor E: mFluor	B: sCDI/smFluor eliminated XSD mDiff->34-ID	Would require to reconstruct most of 2-ID
2-ID-2			INP	new cant	
4-ID-1	XSD	C: MS-S	no change		
4-ID-2	XSD	D: MS-H/MD	no change		
6-ID-1	XSD	B: MD/Diff C: SS D: HEX	SPXIM	MD/Diff->MD SS->XIS HEX->HEXD->1-ID	Assumes 5-ID, 7-ID crab cavity placement. MD & Diff programs merged into MD upgrade. HEX merged into 1-ID HEXD upgrade.
9-ID-1	XSD	MERIX LSS	XSD-LSS	MERIX->RIXS->27-ID	
9-ID-2			MD	new cant	
11-ID-1	XSD	B: PDF C: PDF/HEXD D: TR-XAFS	unchanged		
15-ID-1	ChemMatC ARS-CAT	Diff/LSS/USAXS	unchanged		
15-ID-2					
18-ID-1	BIO-CAT	SAXS/mFluor/mDiff	unchanged		
19-ID-1	SBC-CAT	MX	unchanged		
20-ID-1	XSD	XAFS/TR- EXAFS/SD/LERIX	WFI	ASL->25-ID	
20-ID-2					
25-ID-1			ASL-1	new beamline	
25-ID-2			ASL-2	new cant	
27-ID-1			RIXS	new beamline	
27-ID-2					
28-ID-1			XIS-1	new beamline	Location next to RIXS may allow lateral expansion towards 27-ID.
28-ID-2			XIS-2	new cant	
30-ID-1	XSD	HERIX/MERIX	HERIX/ASD-D	MERIX->RIXS->27-ID	
32-ID-1	XSD	WFI/TXM/HSI	TXM/HSI	WFI->20-ID	
32-ID-2			BCDI	new cant	
34-ID-1	XSD	BCDI	S3DD nano/XSD mDiff	BCDI->32-ID	
34-ID-2	XSD	3DXRD	S3DD micro	3DXRD->S3DD	
35-ID-1	ASD	ASD-D	DCS	ASD-D->30-ID	
35-ID-2		ASD-CTS		ASD-STD->31-ID	DCS will use two IDs and take up straight section space occupied by current transformer/stripline

Scenario A



Scenarios

- Currently ten scenarios
 - A to J
 - No preferred scenario
- Five assume MS-S remains at 4-ID
 - Mostly a technical decision
 - Accelerator aspects still being worked out
- Five with MS-S relocated, MS-H at 4-ID
- All scenarios that maintain SAC approved scope have 6 or 7 new cants
- Two scenarios compromise the S3DD scope and have 5 new cants

Scenario Summary

Orange denotes location unchanged

Yellow denotes scope reduction

	A	B	C	D	E	F	G	H	I	J
DCS	35-ID	35-ID	27-ID	28-ID	35-ID	35-ID	35-ID	35-ID	35-ID	35-ID
INP	2-ID-2	2-ID-2	2-ID-2	2-ID-2	9-ID-2	9-ID-2	9-ID-2	25-ID-1	9-ID-2	9-ID-2
MS-S	4-ID	4-ID	4-ID	4-ID	4-ID	2-ID-2	25-ID-1	2-ID-2	2-ID-2	2-ID-2
RIXS	27-ID	27-ID	35-ID	27-ID						
S3DD micro	34-ID-2	34-ID-2s	34-ID-2s	34-ID-2						
S3DD nano	34-ID-1s	34-ID-2s	34-ID-2s	34-ID-1s						
WFI	20-ID	20-ID	20-ID	19-ID	20-ID	20-ID	19-ID	19-ID	20-ID	20-ID
XIS	28-ID	28-ID	28-ID	25-ID	28-ID	28-ID	28-ID	28-ID	28-ID	28-ID
ASD-D	30-ID	30-ID	30-ID	35-ID	30-ID	30-ID	30-ID	30-ID	30-ID	30-ID
ASL	25-ID	25-ID	25-ID	20-ID	25-ID	25-ID	20-ID	20-ID	25-ID	25-ID
BCDI	32-ID-2	34-ID-1s	34-ID-1	32-ID-2						
BIO	18-ID	18-ID	18-ID	9-ID-2	18-ID	18-ID	9-ID-1	9-ID	18-ID	18-ID
MD	9-ID-1	9-ID-1	9-ID-1	9-ID-1	2-ID	9-ID-1	25-ID-2	2-ID-1	2-ID-1	2-ID-1
SBC	19-ID	19-ID	19-ID	18-ID	19-ID	19-ID	18-ID	18-ID	19-ID	19-ID
XSD LSS	9-ID-2	9-ID-2	9-ID-2s	15-ID-2	15-ID-2	15-ID-2	15-ID-2	15-ID-2	15-ID-2	28-ID*
XSD mDiff	34-ID-1s	34-ID-1s	2-ID-1s	34-ID-1s						
XSD mFluor	2-ID-1	2-ID-1	2-ID-1s	2-ID-1	9-ID-1	2-ID-1	2-ID	25-ID-2	9-ID-1	9-ID-1

Next Steps

- PSAC
 - Scenario introduction/spreadsheets given Friday
 - Video conference tomorrow
- XSD Staff
 - Presentation this week (probably Wednesday)
- Public
 - ??
 - Feedback using discussion forum
 - Will roll out by next week
- SAC
 - Meet March 20, 21
 - Scenarios and feedback presented





Beamlines Not Considered for Change in the Roadmap

- 1-ID – APS-U HEXD Upgrade uses existing beamline and new cant of 1-ID
- 3-ID – NRS/HERIX Flux driven program uses entire straight section
- 5-ID – DND-CAT SPX crab cavity will occupy part of straight section
- 6-ID – APS-U SPXIM
- 7-ID – APS-U SPXSS

Beamlines Not Considered for Change in the Roadmap

- 11-ID High Energy X-rays/Time Resolved Beamline already split into three branches
- 12-ID SAXS/Surface Science/Diffraction Beamline already canted
- 13-ID GSECARS-CAT Canted
- 14-ID BioCARS-CAT/APS-U HFPP Flux driven program uses entire straight section
- 16-ID HP-CAT Canted

Beamlines Not Considered for Change in the Roadmap

- 21-ID LS-CAT Canted
- 23-ID GM/CA-CAT Canted
- 24-ID NE-CAT Canted
- 26-ID CNM Flux driven program uses entire straight section
- 29-ID IEX (under construction) Extra long ID

Beamlines Held as Future Development Options

- 8-ID XPCS/CGIXS Flux driven program will soon get second ID to use the entire straight section
- 10-ID MR-CAT
- 17-ID IMCA-CAT
- 22-ID SER-CAT Potentially the home of the long wavelength MX beamline
- 31-ID LRL-CAT Unused half of straight section might be used for ASD Diagnostics (no beamline required)
- 33-ID Interfaces/Diffraction APS-U RIS Contingent proposal for canting