Advanced Photon Source Upgrade Project: Beamline Schedules

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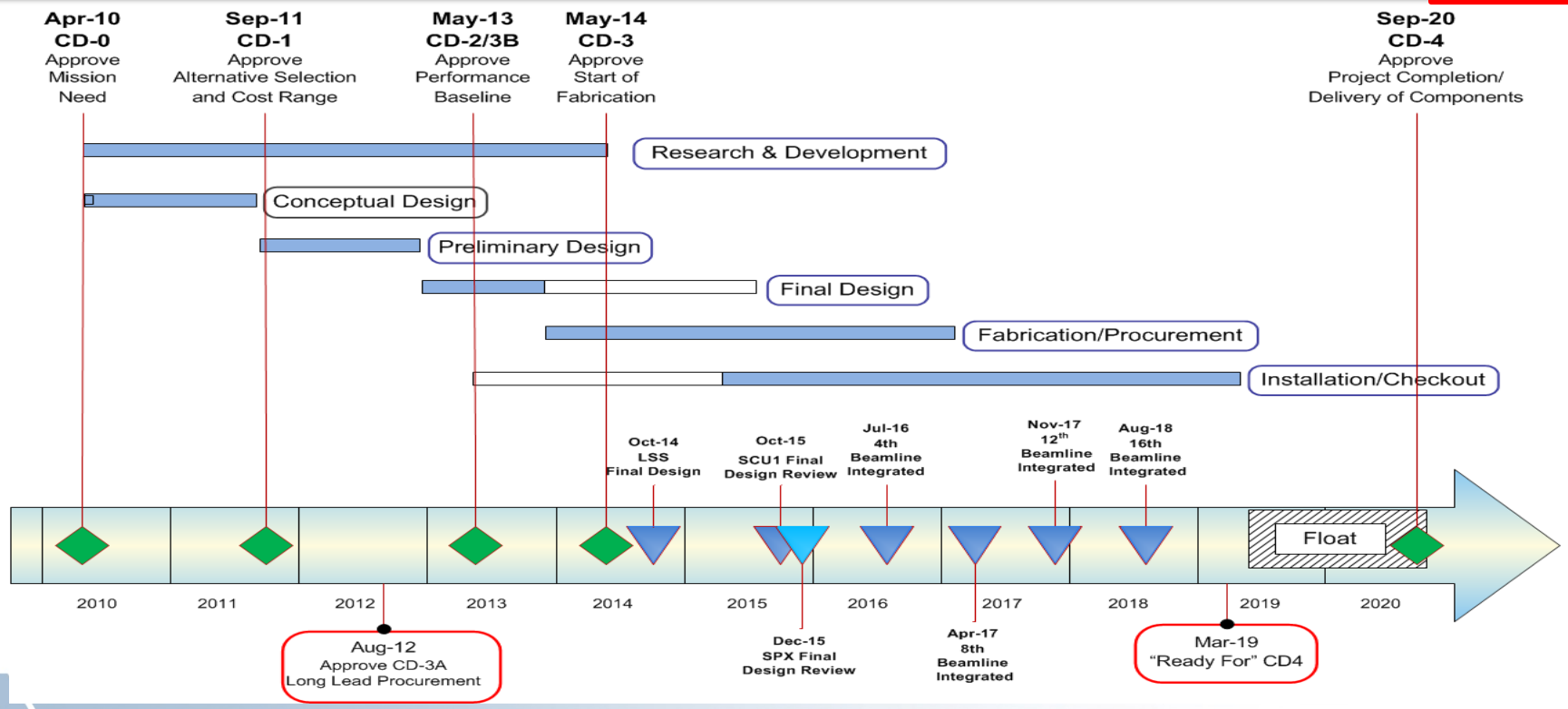
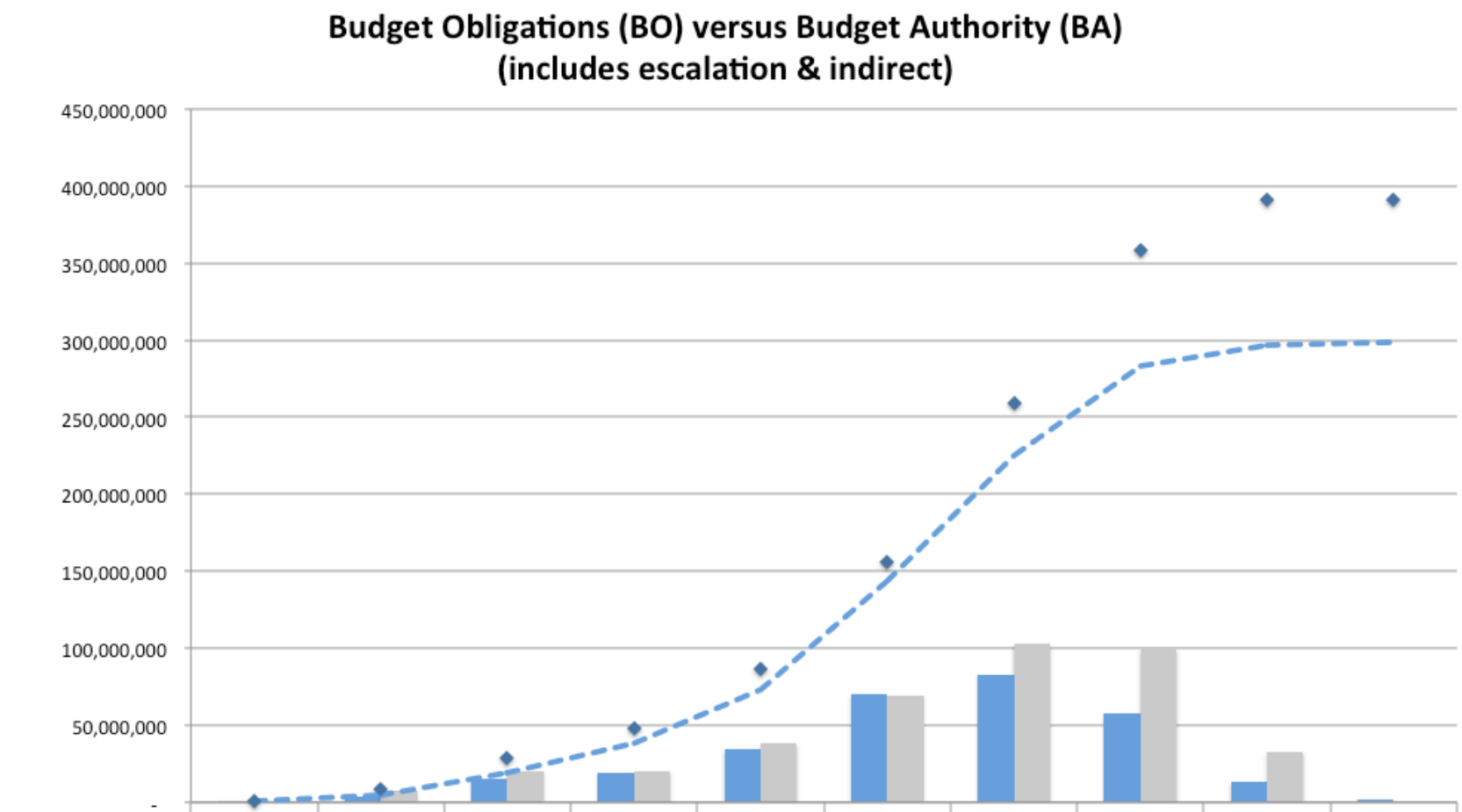
Funding Profile and Schedule Including LLP

	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	F19	FY20	Total
(OPC)	$1M	$7.5M										**$8.5M**
(MIE)			$20M	$20M	$38M	$69.5M	$103M	$99M	$33M			**$382.5M**
Total Funding Profile	$1M	$7.5M	$20M	$20M	$38M	$69.5M	$103M	$99M	$33M	$0	$0	**$391M**



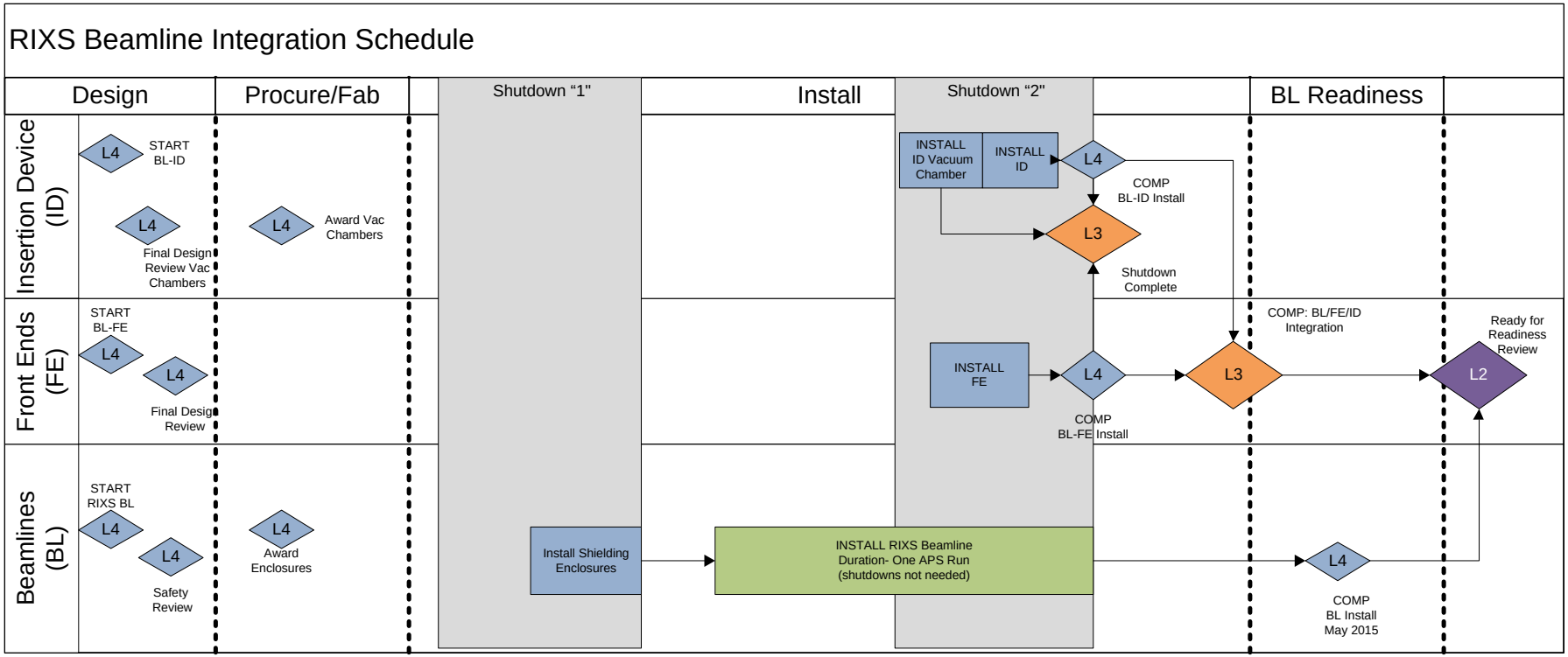
Budget Authority Funding Profile and Obligations



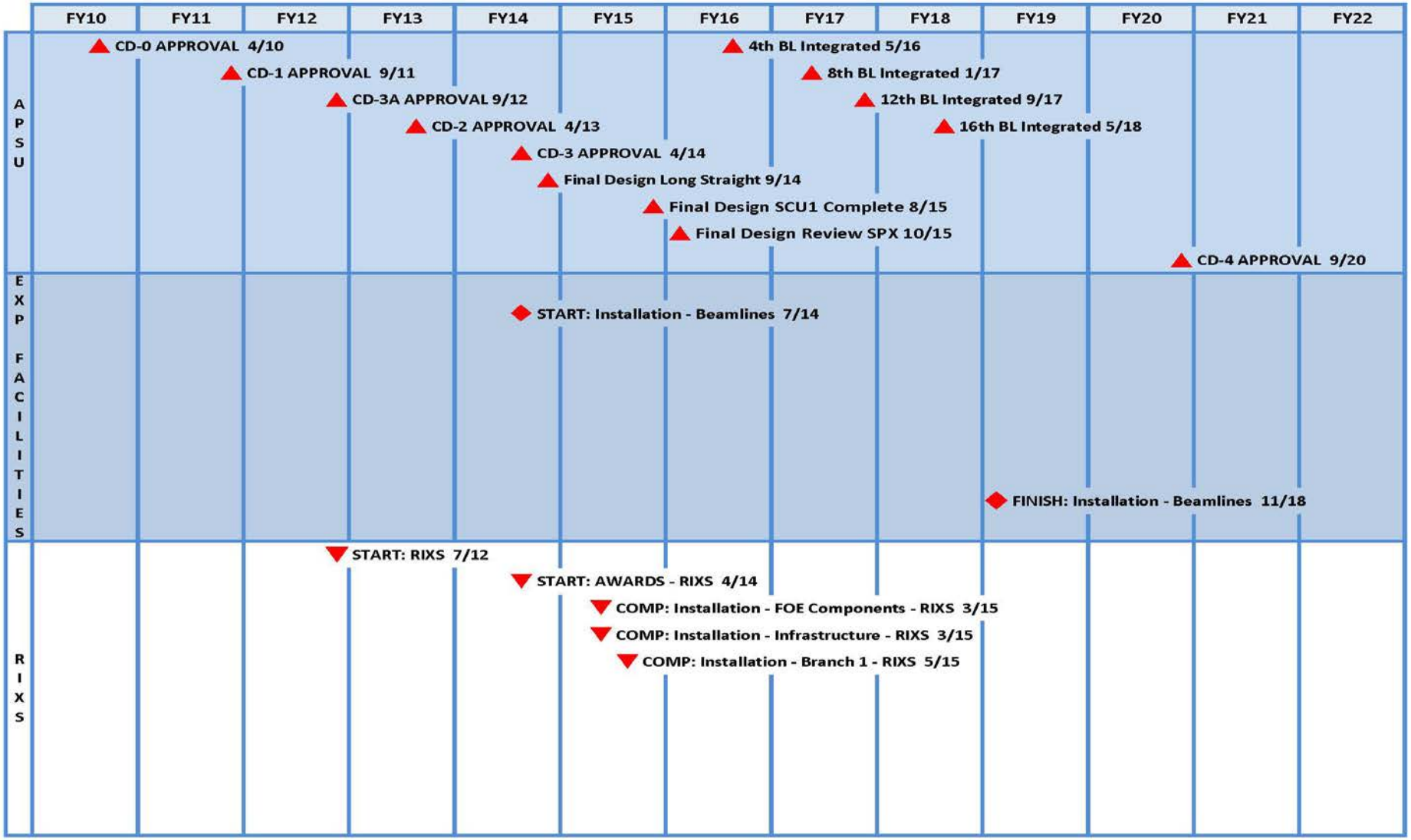
	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019
BO Incremental	587,243	3,696,131	15,265,370	18,966,774	34,721,221	69,983,303	82,594,235	57,635,117	13,280,734	2,202,681
BA Incremental	1,000,000	7,500,000	20,000,000	20,000,000	38,000,000	69,500,000	103,000,000	99,000,000	33,000,000	-
BO Cumulative	587,243	4,283,374	19,548,744	38,515,518	73,236,739	143,220,042	225,814,278	283,449,395	296,730,128	298,932,809
BA Cumulative	1,000,000	8,500,000	28,500,000	48,500,000	86,500,000	156,000,000	259,000,000	358,000,000	391,000,000	391,000,000

APS Maintainance Periods – RIXS Installation

An example of installation schedule using Primavera project management tool



RIXS Schedule

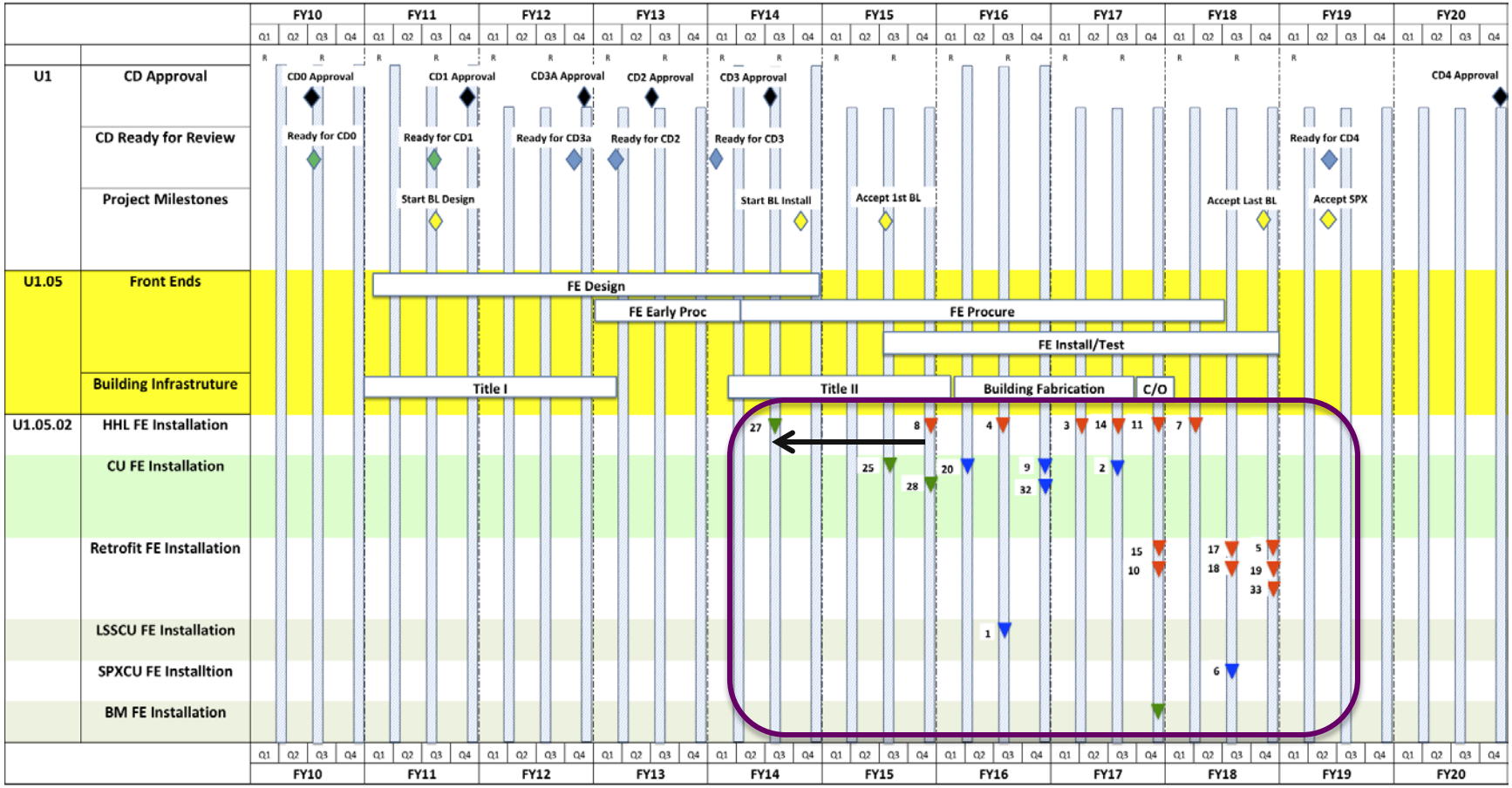


Integrated Beamline Installation Schedule

ACTIVITY ID	ACRONYM	LOCA-TION	FY13Q1	FY13Q2	FY13Q3	FY13Q4	FY14Q1	FY14Q2	FY14Q3	FY14Q4	FY15Q1	FY15Q2	FY15Q3	FY15Q4	FY16Q1	FY16Q2	FY16Q3	FY16Q4	FY17Q1	FY17Q2	FY17Q3	FY17Q4	FY18Q1	FY18Q2	FY18Q3	FY18Q4	FY19Q1	FY19Q2	FY19Q3	FY19Q4
			CD-2				CD-3																							
U1.04.02.02 Short Pulse X-ray Scattering and Spectroscopy	SPXSS	7																												
U1.04.02.03 Short Pulse X-ray Imaging and Microscopy	SPXIM	6																												
U1.04.02.04 High Flux Pump-Probe	HFPP (na)	14																												
U1.04.02.05a Wide Field Imaging (interior)	WFIi	20																												
U1.04.02.05b Wide Field Imaging (exterior) independent	WFIe (use WFIi)	20																												
U1.04.02.07 In-situ Nanoprobe	ISN	32																												
U1.04.02.08 Resonant Inelastic X-ray Scattering	RIXS	27																												
U1.04.02.09 Magnetic Spectroscopy–Hard	MS-H	4																												
U1.04.02.10 High Energy X-ray Diffraction	HEXD	1																												
U1.04.02.11 X-ray Interface Science	XIS (incl LSS))	28																												
U1.04.02.12 Sub-micron 3D Diffraction	S3DD	34																												
U1.04.02.13 Advanced Spectroscopy and LERIX	ASL	25																												
U1.04.02.16 Magnetic Spectrosopy–Soft	MS-S	2																												
U1.04.02.17 Magnetic Diffraction	MD	2																												
U1.04.02.18 Fuel Spray Dynamics	FSD	?																												
U1.04.02.19 Bragg Coherent Diffractive Imaging	BCDI	9																												
U1.04.02.20 Fluorescence Microscopy	mFluor	9																												

Target for first light → Beamline/Front end/Insertion device integration

Installation Schedule – Tied to Maintainance Periods

		Inside Shield Wall				
BL	**Name**	**ID Chamber**	**Insertion Device (ID)**	**Front End**	**Enclosure**	**Comment**
27-ID	RIXS	FY14-3Q	FY14-3Q	FY14-3Q	FY13-3Q	
25-ID	ASL	FY15-3Q	FY15-3Q	FY15-3Q	FY14-2Q	
28-ID	XIS	FY15-3Q	FY15-4Q	FY15-4Q	FY14-4Q	FOE Only in FY 14
9-ID	BCDI/mFluor	FY16-3Q	Existing	FY16-4Q	FY15-3Q	
2-ID	MD/MS-S	FY17-2Q	FY17-3Q	FY17-3Q	FY16-3Q	
6-ID	SPXIM	FY17-4Q	FY18-2Q	FY18-2Q	FY17-3Q	
20-ID	WFI	FY15-4Q	FY16-2Q	FY16-2Q	FY15-2Q	
32-ID	ISN	FY16-3Q	FY16-4Q	FY16-4Q	FY15-3Q	
4-ID	MS-H	FY16-2Q	FY16-3Q	FY16-3Q	FY16-3Q	
1-ID	HEXD	FY16-2Q	FY16-2Q, 3Q&FY18-4Q	FY16-3Q	FY15-3Q	
8-ID	Retrofit	N/A	N/A	FY15-4Q	N/A	Typical - Retrofits just involve front ends and have schedule flexibility

Front End Summary Schedule