Rebaseline Schedule PY5-PY8

PSL Physical Sciences Laboratory
University of Wisconsin-Madison

	Task Name	2022				2023				2024				2025				2026			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
3319	IceCube Data Systems Integration																				
3320	L2 Task Management																				
3321	Online Systems Software																				
3322	L3 Task Management																				
3323	DAQ Software																				
3324	Interface to OM Sensors																				
3333	Support DAQ installation for all sensor testing																				
3335	Prototype and evaluate Upgrade DAQ components within existing IceCube DAQ architecture																				
3336	Review DAQ Operation plans for new modules																				
3337	DAQ DataCollector component interface development for Upgrade OM sensors																				
3338	DAQ DataCollector component coding and testing for Upgrade OM sensors																				
3339	IceCube DAQ systems adapted for Upgrade DataCollector intergration																				
3340	IceCube DAQ system level testing at SPTS and NTS																				
3341	DAQ software ready for deployment including support for all new OMs																				
3342	DAQ software deployment at SPS																				
3343	Interface to Stand Alone calibration devices																				
3348	Support DAQ installation for NTS calibration device testing																				
3349	Capture higher level DAQ requirements for Calibration devices																				
3350	Prototype and evaluate DAQ components for Calibration devices																				
3351	Review DAQ/Special devices operations plan for new calibration devices																				
3352	Integrate support for calibration devices into DataCollector component																				
3353	Integrate support for calibration devices into overall DAQ system																				
3354	IceCube DAQ system level testing of calibration devices at SPTS and NTS																				
3355	DAQ software ready for deployment including support for all new Calibration devices																				
3356	DAQ for calibration devices software deployment at SPS																				
3357	Experiment Control																				
3358	Interface to OM sensors																				
3366	Support ExpControl installation for sensor testing																				
3368	Prototype and evalulate I3Live extensitons																				
3369	Review Experiment Control - Upgrade plans for new modules																				
3370	Define ExpControl-Data Collector component interface																				
3371	Implement ExpControl-DataCollector component interfaces																				
3372	Implement ExpControl DB interfaces to support DataCollector component																				
3373	Testing of ExpControl and DAQ operations at SPTS and NTS																				
3374	ExpCont system for deployment - OM sensors support ready																				
3375	ExpControl deployment at SPS																				
3376	Interface to Stand Alone Calibration Devices																				
3378	Capture higher level Exp Control requirements for Calibration devices																				
3379	Prototype and evaluate Exp Control components for Calibration devices																				
3380	Review ExpControl/Special devices operations plan for new calibration devices																				
3381	Define and prototype ExpControl - Calibration device special run configuration interface																				

Task Name	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
3382 Implement ExpControl - Calibration device special run configuration interface														▬						
3383 Testing of ExpControl - Calibration device control at SPTS and NTS																▬				
3384 ExpControl ready for deployment including support for all new Calibration devices																	◆			
3385 ExpControl deployment at SPS																	▪			
3386 Support ExpControl operations during initial special devices operations																	▪			
3387 Extend I3Live and I3Moni system to support run monitoring data from new devices.												▬▬▬▬							
3388 **Online Filtering**																				
3389 Specify Online Filter Req'mts (New sensors / Calib Devices)					▪															
3390 Design Filter Sys for unified DAQ readout of ALL sensors& Calib Devices						▬														
3391 Review Online Filtering - Upgrade plans for new modules							▪													
3392 Implement and testing of filtering SW for prod. systems													▬▬▬▬							
3393 New Online Filter Sys for SPS (readout New Sensors& Calib Devices																◆				
3394 New Online Filter Sys Deployment at SPS																	▪			
3395 **OM Software**																				
3398 **OM testing software app**																				
3409 Support OM testing app thru FAT testing cycles		▬▬▬▬▬																		
3411 Extend OM testing app to include support for MMB based special devices			▬																	
3412 Support OM testing app thru calibration device DVT and FAT testing					▬▬															
3413 Prototype and test SPAT testing software at NTS							▪													
3414 Review SPAT testing plans for Pole																				
3415 Prepare and ship SPAT toolset to Pole								▪												
3416 SPAT personnel arrives at NPX FS2												◆								
3417 SPAT testing preparation and execution at Pole FS2													▬							
3418 SPAT personnel arrives at NPX FS3																◆				
3419 SPAT testing preparation and execution at Pole FS3																▬				
3425 **OM data collection app**																				
3430 Develop and test xDOMapp data collection app				▬▬																
3431 Support integration work and testing with DAQ Data Collector component'					▬▬▬															
3432 Extend xDOMapp to include support for calibration devices in operations							▬▬													
3433 Develop and test xDOMapp support for SPAT testing at NTS									▬											
3434 OM data collection app ready for use in SPAT/NTS									▪											
3435 Support full DAQ testing with xDOMapp at NTS/SPTS with OM devices														▬▬▬						
3436 Review OM data collection app in detector operations						◆														
3437 Support full DAQ testing with xDOMapp at NTS/SPTS with Calibration devices															▬▬					
3438 OM data collection app ready for use at SPS with full DAQ																◆				
3439 Support xDOMapp through SPAT testing and deployment														▬▬▬▬						
3440 **MMB support software**																				
3445 Support MMB software for calibration device interface development											▬▬▬▬									
3446 **FieldHub Software**																				
3447 maintenance of mini-FieldHub server software for FAT		▬▬▬▬																		
3450 FieldHub SBC OS preparation and testing					▪															
3451 Modification of FieldHub server software to support full FieldHub functionality					▬▬															
3452 Field Hub Software ready for use on FH hardware at NTS					◆															
3453 Review Field Hub software in Upgrade detector operations					◆															

Year	2022				2023				2024				2025				2026			
Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

ID	Task Name
3454	Development of FieldHub monitoring software (IceCube Live interface)
3455	Software available to support FieldHub installation and testing at Pole
3456	support of FieldHub / pDAQ Data Collector interface layer with pDAQ development
3457	suopport FieldHub and SBC software system thru DAQ deployment and String commissioning
3458	OM Firmware support (PSU)
3482	Firmware device maintenance and support for all OM devices during DAQ Development
3483	Offline Systems
3484	L3 Task Management
3485	Core Software
3490	Extend Core Software to include support for new hardware readouts
3491	Core Software Release for hardware readout support ready
3492	Reconstruction
3497	Offline software support and testing for Upgrade low energy event reconstruction tools
3498	Tools and Infrastructure
3501	Support Upgrade SW Development environment and infrastructure
3502	Simulation Software
3503	L3 Task Management
3504	Electronic readout and optical module simulation
3510	Version 2 - as built
3511	Capture Improvements of OM device Simulation Tools (w/testing, deployment&initial data collection)
3512	Prepare and handoff needed details for as-built simulation final Implementation and testing
3513	As built device details delivered to IceCube simulation team for simulation implementation and testing
3514	Calibration Device simulation
3515	Capture requirements for Calibration device Simulation Tools based on Final Designs
3516	Design Calibration Device Simulation Tools based on Final Designs
3517	Version 1 - as designed
3518	Implementation and testing
3519	Release v1 calibration devicesimulation tools
3520	Version 2 - as built
3521	Capture Improvements of Calibration device Simulation Tools (w/testing, deployment&initial data collection)
3522	Prepare and handoff needed details for as-built simulation final Implementation and testing
3523	As built device details delivered to IceCube simulation team for simulation implementation and testing
3524	Simulation production
3529	Develop tools for "As -Built"Simulation Samples for Data Quality Verification Studies
3530	Tools to provide "As Built" simulation sample ready
3531	Computing Infrastructure
3532	L3 Task Management
3533	SPTS/NTS computing needs
3534	NTS
3539	Refresh NTS HW to match SPS
3540	Support NTS System
3546	SPS computing needs
3548	Design/Specify SPS Computing Sys Extensions for Upgrade
3549	Procure Computing Sys for SPSExt

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	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
3550 Buildout and test SPS systems in North																				
3551 Ship Computing Sys for SPS Ext to Pole																				
3552 Computing HW for SPS Ext Arrival at NPX																				
3553 Installation at Pole																				
3554 SPS computing system for Upgrade complete at pole																				
3555 Distributed computing needs																				
3557 Prepare Distributed Mass Production for "As Built" Detector Verification																				
3558 Upgrade String Commissioning																				
3559 L3 Task Management																				
3560 Upgrade OM module commissioning																				
3561 Develop and review OM module commissioning plan																				
3562 Review OM module commissioning plan																				
3563 Develop software needed for OM commissioning																				
3564 Commission newly deployed OMs following deployment																				
3565 Deliver commissioned OMs to detector operations team for integration																				
3566 Upgrade calibration device commissioning																				
3567 Develop and review calibration device commissioning plan																				
3568 Review calibration device commissioing plan																				
3569 Develop software needed for calibration device commissioning																				
3570 Commission newly deployed calibration devices following deployment																				
3571 Deliver commissioned calibration devices to detector operations team for integration																				