

WBS 2.5 sPHENIX Construction Status

Russell Feder for the sPHENIX construction team















Cumulative Weight %-complete (revised 7/7/22)



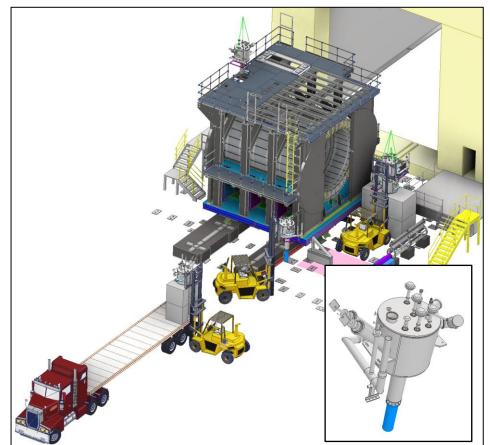
	Weight (tons)	Cumulative (tons)	% of Total
Cradle-base halves	2 x 36.5 + equipt	73	8.1
Cradle-base other parts	60	133	14.8
oHCAL sector 1-13	13 x 16	341	37.9
Babar Magnet	14	355	39.4
Large Support Rings	4	359	39.9
oHCAL sector 14-32	19 x 16	663	73.7
iHCAL barrel	18	681	75.7
Carriage and platforms	72 (various)	753	83.7
Pole Tip Doors	4 x 23	845	93.8
EMCAL sectors	32 (64 x ½ each)	877	97.4
TPC, INTT, MVTX, MBD, Cryo Eqpt, Racks, Cables, Pipes, etc	23	900	100

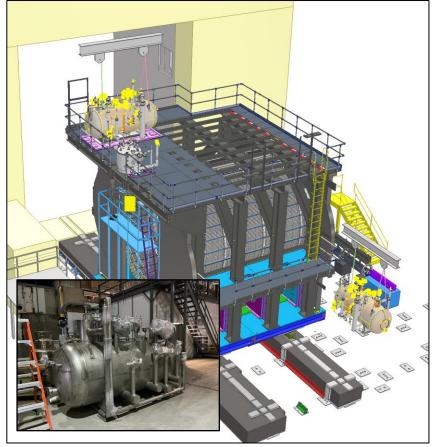


As of 7/14/22

Magnet enabling components installation: The valve-box and cold-box







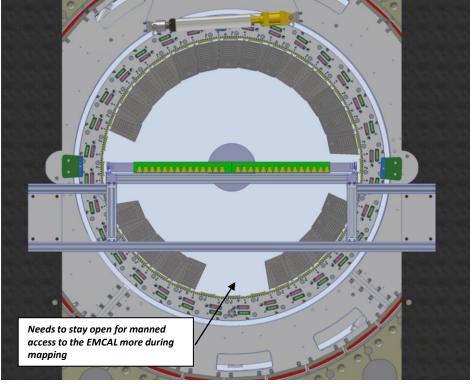
Next → Install EMCAL



Starting set up of EMCAL installation prep station on north-side floor of AH



48 of 64 EMCAL sectors can be installed before magnet mapping. Start ASAP.



sPHENIX Construction Schedule



Sequential Build Steps	Location	Start	End	M-22	J-22	J-22	A-22	S-22	0-22	N-22	D-22	J-23	F-23	M-23
Platforms, Pole Tip Doors, Carriage Adjustments Installation of the pole tip doors is a key prerequisite for roll-in and magnet mapping	АН	5/23/22	8/5/22		Platforms and doors	Door motion, align carriage								
AH On-carriage detector infrastructure install as much detector infrastructure as possible, focus on trapped items	АН	5/23/22	6/10/22		Racks, cable tray, HCAI	. cabling								
Magnet enabling infrastructure on upper platform start install of the valve box, cold box, piping, etc	АН	6/27/22	8/5/22	???										
Install the iHCAL Barrel ncludes construction and dismantling of the iHCAL install structures	АН	5/23/22	6/10/22											
Start EMCAL installation Install as much as possible, Several rows are left out until after magnet mapping.	АН	6/13/22	8/5/22											
IR Infrastructure Installations Before Roll-In Several tasks including the west stairwell, ECW piping, cryo infrastructure, HVAC upgrades	IR	5/23/22	8/5/22											
Move sPHENIX To the IR sPHENIX moves west and north to final IR position	AH/IR	8/8/22	8/12/22											
Continue installing magnet enabling infrastructure Magnet cooldown, power and control testing	IR	8/15/22	9/23/22			_								
EMCAL, TPC install structures, TPOT install in IR TPOT installed last in order to use TPC installation structures	IR	8/15/22	11/11/22							EMCAL				
Magnet Mapping after USI approval USI approval submitted by 6/1/22 → approval needed for magnet mapping	IR	9/26/22	10/14/22			l approval for r m RHIC magnet		i						
Install the TPC Installation structure already in place for TPOT	IR	11/14/22	12/9/22			You a								
Beam Pipe, INTT, and MVTX install NTT supports → beam pipe and bake → INTT → MVTX	IR	12/12/22	1/27/23			e here 7								
MBD and sEPD Install MBD north → sEPD north → MBD south → sEPD south	IR	1/9/23	2/21/23			/14/22								
Detector Infrastructure On- and Off-carriage Racks, cabling, water and gas piping, safety systems, and other infrastructure	IR	Present	2/21/23											
Control Room and Rack Room Infrastructure Hardware and software for safety systems, experimental control, and DAQ	1008	Present	2/21/23											
IRR, ARR. And other commissioning activities RR → 12/16/22, ARR → 1/13/23	Other	12/16/22	2/21/23											

What do we need to complete before rolling into the IR?

What	Status and Issues	Expected finish
Install the magnet cryo valve box and cold	 Valve box moved to 1008 AH 7/13 Lift and install on L3 platform no later than 7/18 	• By 7/18
box	 Bring to 1008 AH 7/18 Install no later than 7/22, depending on valve box installation success 	No later than 7/22
Test the motion of the pole tip doors	 All doors are installed in open position, ready to test motion when time and personnel allow Can be tested manually using come-alongs or other means Rack and pinion motor drive and controls are ready → This can be installed in IR if we have verified motion is smooth with manual test 	Before 8/8/22 roll-in
Complete the install of trapped west-side cable tray	Aaron and Jeff are working this. No issues	Before 8/8/22 roll-in
Finish building the IR west stairwell and adapter platform	West stairwell: The carpenters will return to this work when the upper platform is complete. No Issues	Before 8/8/22 roll-in
	 Adapter platform: In fabrication in the BNL shop → Will be more difficult, but this can be installed after roll-inbut will delay easy/safe manned access to L2 and L3 platform. 	Before 8/8/22 roll-in <u>or</u> <u>immediately after roll-in</u>
Complete other trapped IR infrastructure	 No issues → get status from Marianna Cable tray, ECW piping, HVAC work, cable pulling, etcalmost done and will be ready for roll-in 	Before 8/8/22 roll-in
Show that we can adjust the alignment of sPHENIX in the IR	 There is design and fabrication work to do. Need brackets to support and bolster the jacks that push sideways on the base. → Assign Rich Ruggiero and other engineering resources We are looking for a time window to jack up the carriage and install the sliding surfaces. We want to start this in the AH and get as much done as possiblebut Not necessary for approval to roll into the IR 	Date TBD. Needs to be before hard cryo piping, and water cooled bus is connected in IR
EMCAL installation	 We want to start this in the AH and get as much done as possiblebut <u>Not necessary for approval to roll into the IR</u> 	EMCAL install finished after magnet mapping

sPHENIX