

ICM activities: LHC, SPS, CPS

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6th of July 2020



LS2



LHC

Performed activities

W26/27 (Pablo, Abel N.)

- Configuration of AGILENT in TDIS Test Bench
- Reception tests of 10 TPG's
- Reconnection of mobile pumping groups from Point 4 to Point 1
- LSS1-US151: Repair of cut wiring in the GIS PLC
- LSS2
 - Connection of mobile pumping groups in A6L2
 - Connection and test of TCLD equipment
 - Connection of TI2 equipment, reparation and rewiring of the VRJIA
 - Connection of TDIS equipment at rack level
 - Installation of missing valve cards in TI2 and TCLD chassis
 - Labelling of TCLD, TI2, and TDIS
- LSS3
 - Installation of Mux cards in the valve chassis
 - Configuration DP address of the equipment
- LSS6: Repair of Profibus
- LSS7: Redo wiring of VRJIA boxes
- LSS8: Connection of mobile pumping groups in A5L8

Performed activities

W26/27 (Rodrigo)

LHC - Update

- PLC Update planning + execution (+Pablo, Lampros)
- Post update checks and fixes
- Most gauge reading crates had to be re-updated
- Small fixes in several master PLCs

LHC – VPG Commissioning

- Updated all Arc 81 pumping groups with the latest VPG_STD software and the proper configuration for all VPG <-> Gauge Reading Crates communication.
 - VPG <-> Gauge communication works fine (no issue with subnets here)
 - Problem with wrong sectors, some groups will have to be recommissioned after the issue is fixed on the SCADA side
- Updated VPG_MBLK on all Arc 45 VPG PLCs (fixes the error with wrong gauge status in VPG synoptic)

Performed activities

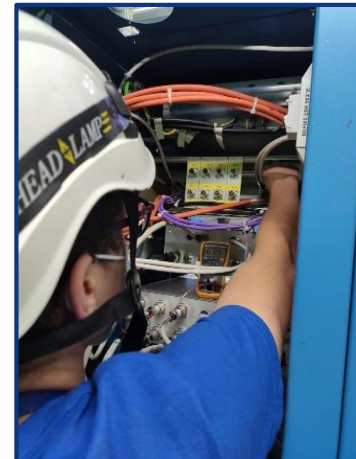
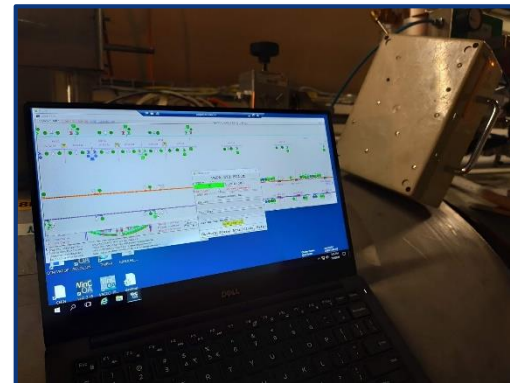
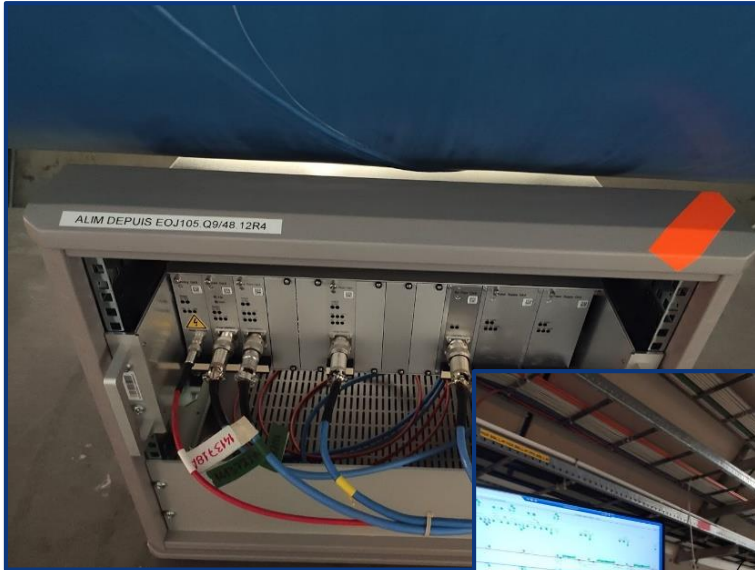
W26/27 (Lampros, Nikos, Alexandre, Petter & FSU)

- **SCADA update.**
- **Sector 12 installation 80% completed.**
 - UA23: PLC installation and cabling
 - UA27: new Ethernet socket installation is finished
 - LSS2L: Local crates R2E type installation, pumping groups connections & starting
 - RE18: Ethernet socket issues (on-going)
 - RE22: Rack rearrangements, PLC installation and cabling (on-going)
- **Commissioning Sector 45: 90% completed.**
 - LSS IV finished (few remaining issues with some TPG300 cards and consolidations – together with RF cavities)
 - ARC IV & BV done
 - CRYO alarms check cabling between VSC-CRG: postponed due to issue with CRG power supply
- **Commissioning Sector 81: 50% completed.**
 - LSS1L IV finished (Piezo-Pirani calibrations, Penning control chain test, groups)
 - ARC from 8L1 to 34L1 IV & BV finished (gauges, valves, groups). Replaced one PKR251 and one TPG300 card

Performed activities

W26/27 (Lampros, Nikos, Alexandre, Petter & FSU)

Commissioning



Planned activities

W28/29 (Lampros, Nikos, Alexandre, Petter & FSU)

- RE22 finish the installation
- UA27 install PLC for inner triplets
- ARC 12 VPGs cables connection & starting
- ARC 12 VRJGE modifications and R2E installation
- Survey for power cables for 13L2.Q and 14L2.Q
- Complete commissioning S81 by week 28
- HW test + CRYO alarm test S12 by week 29
- Solve some issues in S23 by week 29
- Test CMW values for S81 and verify with CRG. (w/ Andre)

VPGF, RadTol electronics, Gauge controllers plan

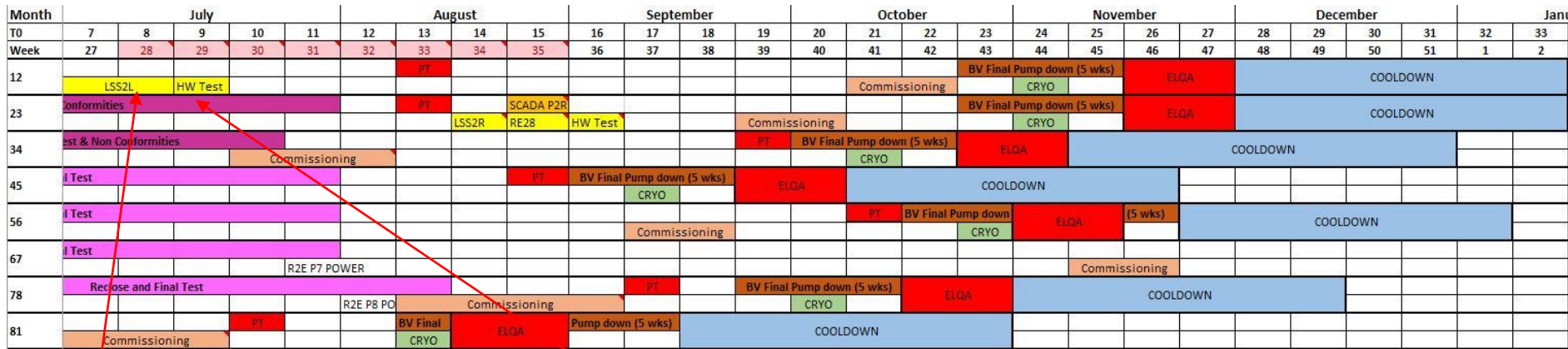
Fixed Pumping Group Controllers / R2E Electronics Replacement Schedule														
2019							2020							
June	July	August	September	October	November	December	January	February	March	April	May	June	July	August
Octant 3														
		Start Octant 4												
			Octant 4											
				Octant 6/7										
					Octant 6/7									
						TESTS								
							Octant 5							
								Octant 8						
									COVID19					
										COVID19				
											COVID19			
												P1 LSS ARC 12		
													P2 LSS L RE22 HW tests	
														P2 LSS R RE28 SCADA up HW tests

LSS2L Done

Finish RE22
HW tests

LHC

IV Commissioning planning (baseline v2.5)

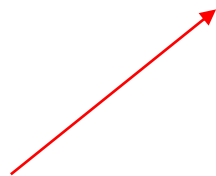


Conclude S12 installation

Finish Commissioning S81
HW test S12 + CRYO alarms

Next LHC SCADA update proposal

Month	August					September				
T0	10	11	12	13	14	15	16	17	18	19
Week	30	31	32	33	34	35	36	37	38	39
BV										
IV										
Experim.										
Install.										
Andre										
Seb										
Rodrigo										
Pablo										
Lampros										
Nikos										
Abel G.										



- Best match week 35 to respect all constrains from BV, IV, Experiments
- IV: Update **only** beginning of week 35 due to the PT for S45 the same week
- SW team present
- Nikos can replace Lampros during the update
- Abel G. is available and could assist

SPS and more

Performed activities

W26/27 (Abel G.)

- SPS – BA1:
 - Troubleshooting of penning VGHB_11952 measuring wrongly in kickers of LSS1: cable from the rack to the access patch panel damaged. Hopefully there were spares available
 - Troubleshooting of ion pump VPIB_11959 measuring wrongly in kickers of LSS1: local cable damaged
 - Replacement campaign of old ion pump controllers providing interlocks by calibrated ones
 - Sector valves test. Several valves did not open (reported to Chiara)
- SPS – BA2:
 - Troubleshooting of penning VGHB_211624 measuring wrongly in TT20: cable damaged. To be tested at patch panel level in TDC2
- SPS – BA3:
 - SPS: BA3 – disconnection (again) and reconnection (again) of the local boxes from the first cavity (RF request)
 - Sector valves test

Performed activities

W26/27 (Abel G.)

- SPS – BA4 (TI8):
 - Control chain testing for new full range installed in sector 1805
- SPS – BA6:
 - Troubleshooting for 2 ion pumps in failure (VPIA_62560: pump damaged, VPIA_62180 local cable damaged)
- SPS – PLC:
 - Troubleshooting of PLCs in failure after the updated (COLDEX: due to new VP_TP_PT communication register, NA: due to memory card)
 - Modification of ValidSt behaviour while controller is not present for VA_RI and VR_PI_CHAN PLC functions

Performed activities

W26/27 (Abel G.)

- ISOLDE:
 - Check rotation direction of new triphasic primary pumps and re-cabling when needed
- REX:
 - Troubleshooting of EBS Profibus network: Profibus to Optical Fiber module damaged
 - Connection and commissioning of new D-boxes
 - Reconnection of all the instruments in REX-LINAC
 - Troubleshooting for turbo-pumps in failure (TCP350 and DCU controllers damaged)
 - Support to OP and BVO during vacuum system restart



ISOLDE: Checking rotation direction for triphasic pumps

Planned activities

W28/29 (Abel G.)

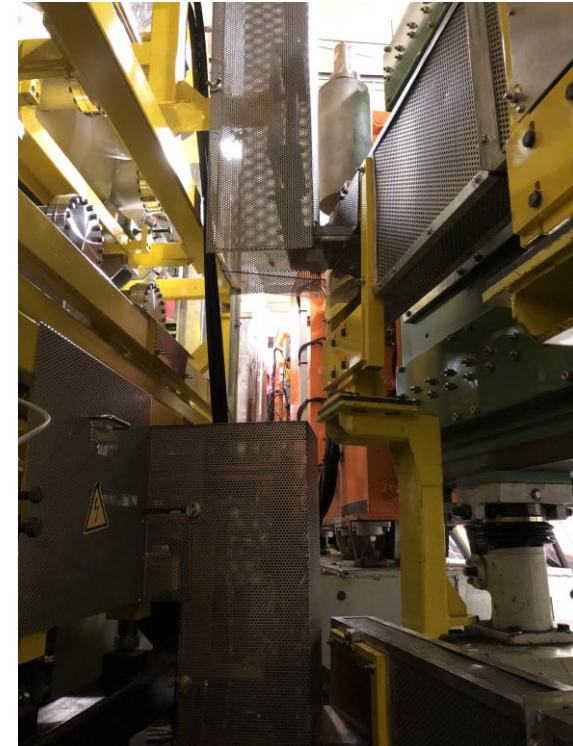
- SPS: ARC 2-, LSS3
- ISOLDE & REX: FE and commissioning

CPS

Performed activities

W26/27 (Jose, Abel G.)

- PSB
 - Troubleshooting of 2 pumping groups in failure (power problem and VVR disconnected)
 - Interlock test for kickers
 - VPS connection & commissioning (w/ Jose F.)
 - All systems are working the machine is closed
- PSR
 - Reconnection of missing equipment in sector PR50
 - Closing of false floor
 - TE-ABT interlocks
 - Sector valve interlocks modification (PR30)



BR.VPS15L5

Performed activities

W26/27 (Jose, Abel G.)

- TT2

- F16.20,F16.30 connection & commissioning
- FTN, FTA connection
- TT2 VPIs & VPGs troubleshooting
- PP interlocks connection

- LINAC3

- Troubleshooting of 3 ion pumps in failure (local box and controller damaged, start interlock wire damaged in TPG crate)

Planned activities

W28/29 (Jose)

- PSR
 - PR50 connection and commissioning
 - Fix problem as they came
- TT2
 - FTN, FTA Commissioning.
- Support to BVO (on demand)

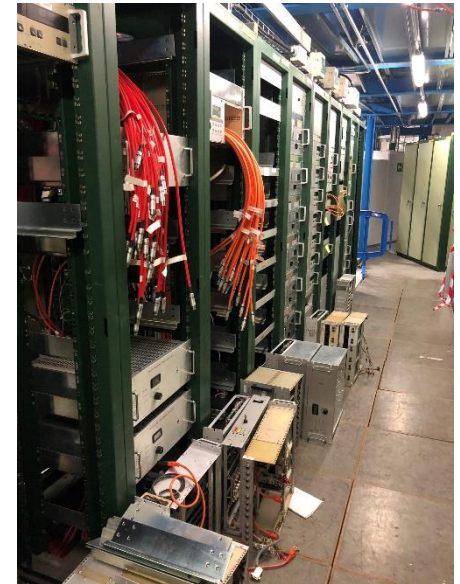
AD & ELENA

Performed activities

W26/27 (Petter)

- AD-ELENA

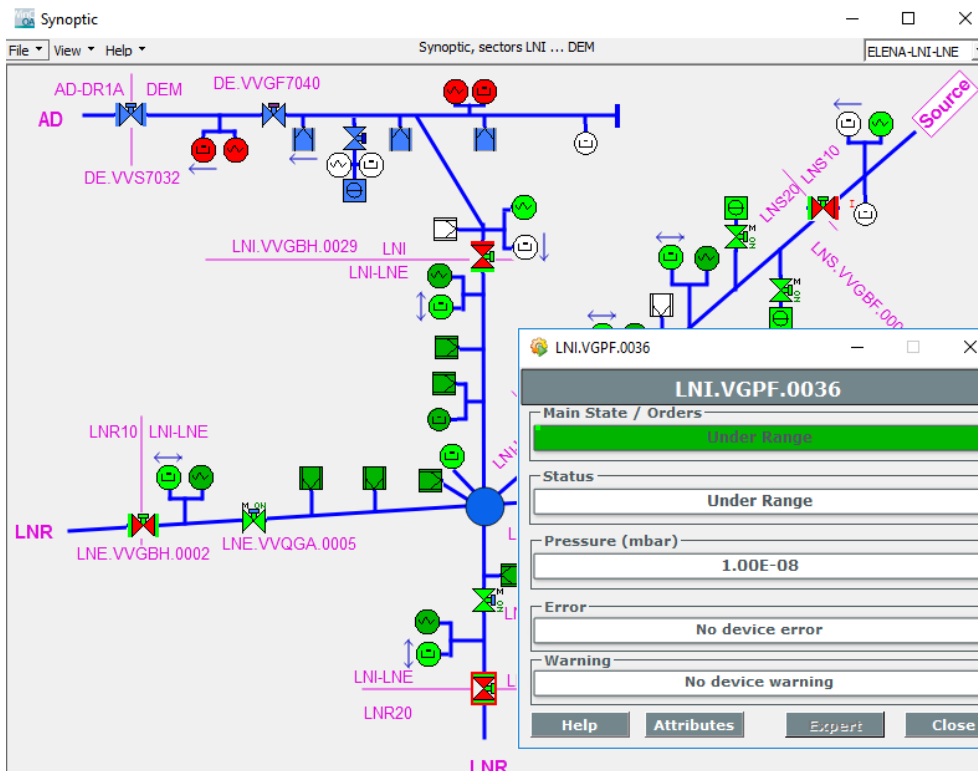
- SCADA and PLC project preparation for the update
- Update of SCADA and PLC (Andre and Abel)
- Troubleshooting of issues after the update: ELENA pumping groups & AD slave PLC
- Configuration and successful commissioning of the ELENA fast valve control system
- Lockout of racks finished and cable takeover from EN/EL
- Started the ring equipment after update
- Tested the new fast valve system (Abel)
- Started the LNS pumping group (Jose and Abel)
- Installed old TPGs from DE (Jose and FSU)



Performed activities

W26/27 (Abel G.)

- ✓ ELENA: New fast valve control system successfully commissioned



Performed activities

W26/27 (Petter)

- AD-ELENA

- Moved valve cables into place (w/ Jose)
- Moved/labelling VPI cables into place (Jose and FSU)
- Moved/labelling Gauge cables into place (w/ Jose)
- Started moving/labelling gauge cables into place (Jose and FSU)
- Updated interlock schematics
- Labelled interlock cables
- Agilent addressed



Valves connection



VPIs connection

ELENA Status

- Remaining tasks
 - TPG tests and installation
 - Interlocks and user alarms
 - Profibus
 - Modify LNS Pumping Groups with new interlock
 - Machine side connections
- Constraints
 - Vacation Petter – W28-29 and W32-33
 - Vacation Pepe – W29-30-31
- Deadlines
 - Mid July – Ring HW commissioning: our equipment for the ring is ready
 - Early August – Circulate H-
 - Mid September – Transfer line HW commissioning

Thank you !



| **LS2**

