

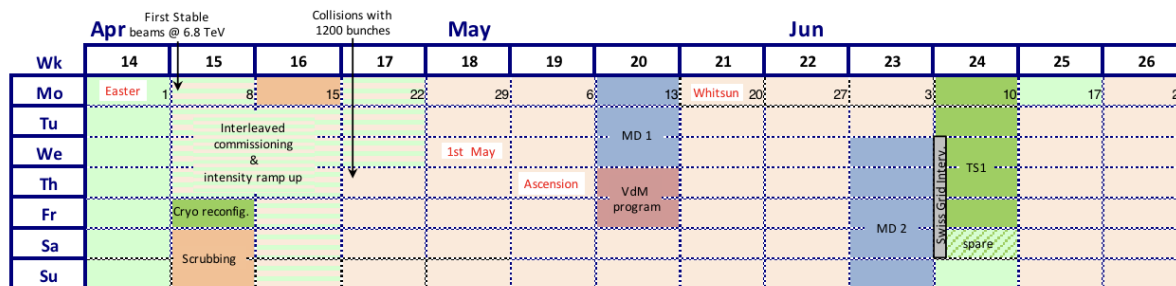
2024 TS1 planning meeting

A.Tauro



TS1: general information

- TS1-2024: 5 days from Monday 10th June at 6:00 (beam off) to Friday 14th June (Saturday as spare)
- Ramp down both magnets Monday at 6:00 (CCC + ARC) – magnets will be restarted on Friday 14:00 (depending on the EL activity with SIG, see next slide). FT0 needs 2 hours with magnet on → checking whether this can be done on Monday between 6:00 and 8:00.
- Stop L3+dipole cooling on Monday (restart on Thursday AM for the acoustic measurements)
- RP survey + smear tests (Uli) on Monday between 8:00 and 9:00 → access starts Mon at 9:00
- Access condition: **General** (access without key) + patrol on Friday at 16:00 (André, Arturo)



SIG intervention

Endorsed at LMC #470 @ 23rd August 2023

Tests of Swissgrid and potential impact on CERN

- CERN was informed by RTE about an action that Swissgrid will implement at the Verbois substation, with a [potential impact on the surrounding transmission network](#):
 - [Installation and test](#) (through various power-on) of a “Point of wave” (PoW) device on the ATR 800 MVA
 - Likely to have an impact on the surrounding network: high inrush current with high harmonic distortion
 - Action done on Swissgrid grid, that is interconnected to RTE grid → potential impact up to Bois-Tollot 400 kV substation (point of connection of CERN)
 - [Swissgrid schedule: 12th – 15th June 2024 \(between 8:00 a.m. and 5:30 p.m.\), not negotiable](#)
- [Similar events \(power-on of the ATR 800 MVA at Verbois\) affected already CERN in the past](#):
 - On the electrical network a particular effect was observed on SY-EPC systems (trips on SVCs and filters for LHC and injectors)
 - In general, the systems supplied by CERN network risk to be under abnormal supply conditions during these transients.
- The risk of an unwanted stop during these tests is considered high. No specific mitigation action could be organized in advance to minimize the risk.



9/1/2023

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Safety mitigation measures

- LSS4 will be closed if the cavities are filled @4.5K

SVC system

Procedure d'enclenchement et declenchement des SVC

- SY-EPC will switch off the SVCs as follows:
 - LHC :
SEQ2, SEQ4, SEF4 (stable filter), SEQ6 → 11th June @9am
SEQ8 → 11th June @ 14h00 (LHCb request)
 - Injectors: MEQ59, BEQ1, BEQ2, BEF4 → 12th June @8am
- Back in service Saturday, 15th June at 5:30 p.m. (maybe Friday, but not sure)
- During the SVC shutdown and switch on phase, the power converters must be off:
 - So no test are possible (RF, Ti2, Ti8 and LHC pre-cycle)
 - Concerned power converter: LHC, Ti2, Ti8, Alice, LHCb and RF

SIG intervention – impact for ALICE

- **The intervention on the Swiss HV network during the TS might cause perturbations on the CERN power network.** These perturbations, if they happen, should be similar to the 'usual' perturbations we see due to thunderstorms etc. (we had 10-15 in the last month...). The difference with normal operation is that **the 18kV harmonic filters will be off** (they will be switched off on the morning of Tue 11).
- **Wiener LVPS:** given the fact that (apart from TPC on one occasion) the Wiener LVPS did not seem to suffer from the many glitches we had recently, and the fact that switching off and on these devices in itself is a considerable risk, **it is suggested not to switch them off**. In addition, would they be switched off, this would have as a consequence that detectors cannot be operated during most of the TS.
- **TOF CAEN LVPS:** we will be in a configuration similar to what we had at the end of last year's run, where TOF had some issues with their CAEN crates in the cavern. Slight difference is that in that case back then, the perturbations were caused by switching on/off power converters on the CERN network (something that will not happen this time), rather than external causes. However, to be on the safe side, **we advise TOF to switch off the CAEN equipment in the cavern**. Clearly this would have as a consequence that TOF cannot be operated during most of the TS (only Monday and during the nights). Other CAEN devices, based on our experience, seem not to be affected by such perturbations, so we see no need to switch these off.
- Of course, if the LVPS will be switched off, we will make sure we still have access to the cavern until after the intervention (and switch on of the 18kV filter), foreseen latest on Saturday 15.06.
- For completeness: all equipment in CR4 is on UPS, and thus will be sufficiently protected against any perturbation.

Acoustic measurements (EN-AA)

- EN-AA will perform some acoustic measurements in the ALICE cavern on **Thursday 13 June**, from 9:00 to 12:00. The measurement should not take more than few hours and there are **no access constraints** nor co-activity conflict associated. ALICE support needed during test (Andrè).
- These campaigns are conducted in view of the future LHC Voice Alarm Evacuation system (PSS cons) which will be deployed during LS3 to replace the current obsolete LHC sirens evacuation system.
- During the past YETS 2023-24, similar tests were performed in the LHC2 machine (tunnel LSS, service areas and stairs), for simulation studies and modelling.
- List of measurement points already checked by Klaus. A measurement point inside L3/FASS and in the counting room below the muon area currently not foreseen, to be added.

DCS

- DCS will perform the traditional backup intervention on Monday morning, starting from 09:00
- On the same morning, from 10:30 to 12:30, IT will replace a router located in the LHC tunnel, which will imply a scheduled downtime of the network for C-side, and portions of O & I-side devices
- Therefore no DCS activity should be expected on Monday morning

TS1: detector's activities

- ITS: inspection and potentially exchanging of the power patch cords for about 7 Power Boards (PBs) at PP-1 I-side and O-side (the exact number of PBs under investigation). Three hours intervention at PP1, probably Wed or Thu
- BCM: inspect the BCM optical fibers with a colleague from EN-EL-CF (Monday)
- TPC:
 - Work on the laser
 - Replace FECs on A and C-sides (cross-check with ITS for A-side + possibly share watcher with TOF for C-side)
 - Work on the current readout system on the field cage
- TOF:
 - Fix issue with the LVs on crate 35, S8 (re-cabling) on Tuesday with CAEN experts on site (access agreed with Klaus)
 - Inspect the readout in other 2 crates and plan intervention accordingly
- MFT cooling: EN-CV intervention on Tuesday to check the behavior of some valves, MFT will be OFF the full day
- PHOS: no planned activity for TS1. Cooling plant refill done during access on 31 May.
- EMCAL: checking/replacing FECs and TRUs on EMCAL and DCAL. Measuring voltages. Few afternoons, starting on Tuesday
- MCH:
 - ST1: open station 1, fix readout (DS board or cable consolidation)
 - ST3-4-5: readout improvements (need one nacelle)
- MID: local board check

Gas (EP-DT)

- TRD/TOF purifier FESTO exchange
- Argon leak search

Other activities

- HSE-RP:
 - RP sampling (cooling water) – Monday 9:30
- EN-CV:
 - Installation of pressure regulator on MFT cooling plant (Tuesday)
 - Replacement I/O module on TOF/PHOS/EMCal cooling plant (Tuesday morning) – wo stopping plant
 - Chemical analysis TOF cooling plant
 - Maintenance PX24 'pompes de relevage'
- EN-HE:
 - Maintenance cavern lift (AS-724): Friday 14 between 6:00 AM and 8:00 AM → **no access to UX25 cavern**
 - Reinstall batteries nacelles on Monday morning (removal on Friday morning)
- EN-AA:
 - Reload SNIFFER PLC program to increase a timer communication parameter to prevent spurious com fault between local HMI and PLC
 - Quarterly SG2 gas detection maintenance (SGGAZ-00141)
- BE-EA:
 - Site visit in view of LS3 cabling campaign (Thursday morning, accompanied by Elisa)

Protocol visits

- Minister of Foreign Affairs, Republic of Peru: Friday 10:00 to 10:45
- Ambassador of India to Switzerland and the Principality of Liechtenstein,
Republic of India: Friday 11:00 to 11:30

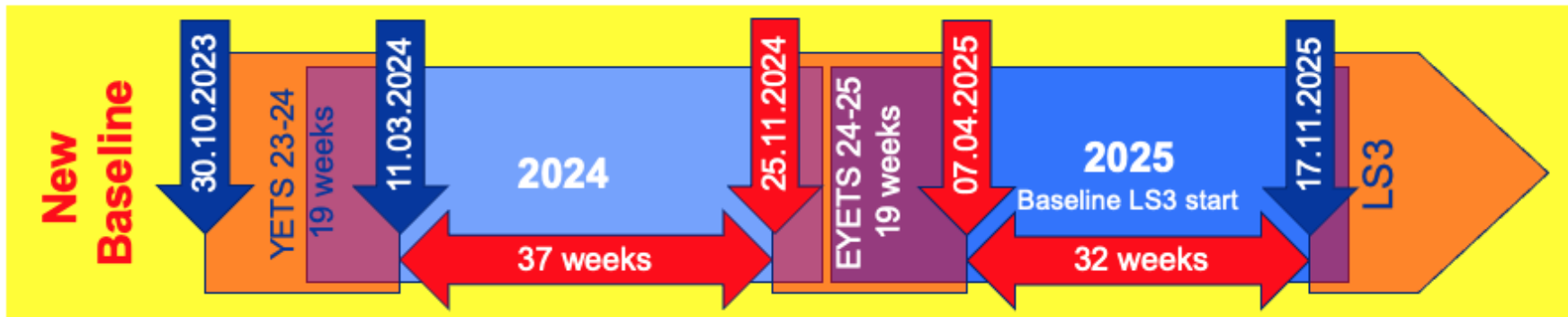
AOB

- TS2 in w43: 21-23 October. TS2 planning meeting on Friday 18 October

2024-25 EYETS



EYETS 2024-25: framework



- Approved at LMC#482: start of the 2024/2025 LHC EYETS shifted by 4 weeks from 28th October to **25th November 2024**.
- The length of the YETS remains 19 weeks.
- Due to the shortening of the 2025 run one of the 2025 technical stops was removed.
- LS3 start date: 17 November 2025.

2024-25 YETS – known activities

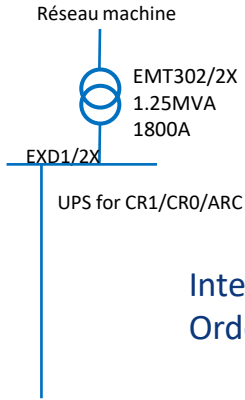
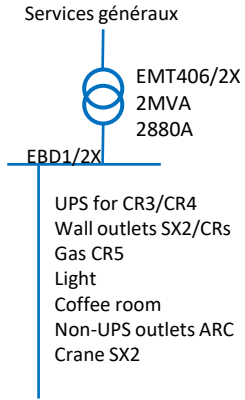
- EN-HE: refurbishment of cavern crane from 12 January to 15 February 2025
 - Crane will be unavailable for ~2 weeks
 - 600 kCHF, paid by Hostlab
 - Visan, Turkish company
- EN-EL: replacement EMT302/2X and EMT406/2X transformers
 - EMT406/2X power rating will be reduced from 2MVA (2880A) to 1.25MVA (1800A)
 - Transparent as it is possible to re-power the switchboards that will be cut (see next slide)
 - Planning: EMT406/2X: 25.11.2024 to 13.12.2024 and EMT302/2X: 6.1.2025 to 24.1.2025



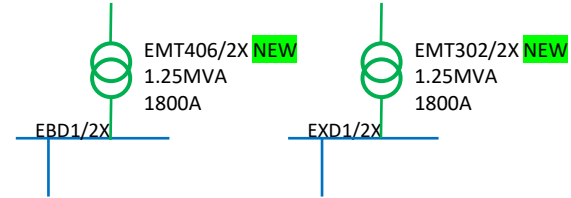
UX25 cavern crane



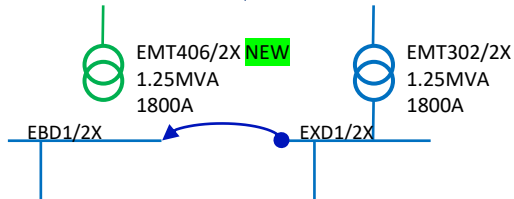
SX2 transformers



Intervention will be done without power interruption
Order of replacement to be decided

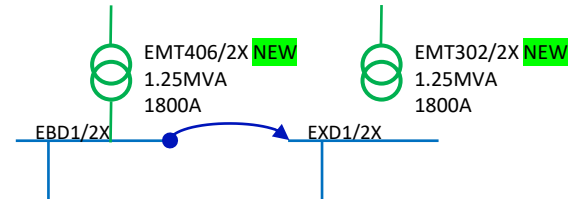


Phase 1:
Repower EBD1/2X from EXD1/2X
Remove EMT406/2X
Install new transformer (1.25MVA)
EBD never exceeded 400A in last 7 years




Restore nominal configuration:
Power EXD1/2X from new transformer

Phase 2:
Power EBD1/2X from new transformer
Repower EXD1/2X from EBD1/2X
Remove EMT302/2X
Install new transformer (1.25MVA)




Declassification underground visitor's path

- Currently, the UX25 visitor's path remains designated as a **supervised radiation area** during YETS and LS, necessitating strict adherence to procedures:
 - **Record dose and signatures** of each visitor, store them in IMPACT after the visit
 - Utilize **operational dosimeters** during visit
 - Use PAD entrance to **keep track of number of visitors** underground
- We are discussing with HSE-RP regarding the potential de-classification of the visitor's path during YETS and LS. The rationale behind is the negligible radiation levels along the ALICE visitor's path.
- Should the de-classification be approved, the ALICE visitor's path would become a **conventional zone**. Nonetheless, we would continue monitoring the number of visitors via IMPACT and PAD access, but no signatures and dose recording would be required anymore.
- Access to the **low-beta platform** will be restricted during activities involving the temporary storage of potentially radioactive materials (e.g., ITS, beampipe).
- **Professional visitors** going beyond the standard visitor's path would have to stick to the existing procedures for supervised areas.
- **24 June: next meeting with HSE-RP to discuss the type of separation required between the visitor path and the low beta platform**



EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

ALICE Safety Document



ALICE

ALICE Visits Procedure

Abstract

This document sets the procedures to be followed by every type of visit allowed in the ALICE facilities and its restrictions.

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EDMS id: 1265819

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Detector's activities

- Please send me any information about the planned activities during the upcoming EYETS

Electrical tests **DRAFT**

Complex	Electrical test	Date
all CERN sites	Auto-transfert	20 th – 22 nd January 2025 (W4)
	Normal Secours (N/S)	8 th January 2025 (W2)
Meyrin site	AUG Adm. Zone Meyrin	4 th January 2025 (W1)
	AUG PS & PSB	11 th & 12 th January 2025 (W2)
	AUG West area	TBD
Prévessin site	AUG Adm. Zone Prevessin	TBD
	AUG North area (BA80-BA81-BA82)	TBD
SPS	AUG SPS1	7 th January 2025 (W2)
	AUG SPS2	13 th January 2025 (W3)
	AUG SPS3	10 th December 2024 (W50)
	AUG SPS4 + AWAKE	14 th January 2025 (W6)
	AUG SPS5	27 th January 2025 (W5)
	AUG SPS6	3 rd February 2025 (W6)
	AUG SPS7	10 th February 2025 (W7)
LHC	AUG LHC1 (including HL) + ATLAS	17 th December 2024 (W51)
	AUG LHC18 + SM18	13 th February 2025 (W7)
	AUG LHC2 + ALICE	4 th February 2025 (W6)
	AUG LHC3 + LHC3Z	16 th January 2025 (W3)
	AUG LHC4	9 th January 2025 (W2)
	AUG LHC5 (including HL) + CMS	12 th December 2024 (W50)
	AUG LHC6	30 th January 2025 (W5)
	AUG LHC7	6 th February 2025 (W6)
AUG LHC8 + LHCb	28 th January 2025 (W5)	

← AT test: 20-22 Jan

← Test N/S: 8 Jan

← AUG test P2: 4 Feb

Other activities

- CV maintenance: week 5-6-7 2025
- EN-AA:
 - Safety test (sirens and flashing light): 24 December 2024 → no access underground
 - CSAM test: 3 January 2025 AM (4 hours) → no access underground