P2 events & perturbations

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ALICE Technical Coordination Meeting
Overview

- 27.04 : ODH alarm sector 1-2
- 28.04 : Power glitch
- 01.05 : Trip solenoid magnet
- 02.05 : Power glitch
- 04.05 : Cooling water stop
27.04 : ODH alarm S1-2

  - During technical stop
  - Arrival fire-brigade for inspection in tunnel
  - Evacuation in tunnel, no evacuation in ALICE cavern
  - Access to cavern suspended (signal at top of lift & request firebrigade)
  - ~17:00 – Fire-brigade finishes inspection; green light from to continue access to ALICE cavern

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27.04 : ODH alarm S1-2

- Cause: 
  - Perturbation in CPU of ‘centrale gaz’ (still under investigation)

- Impact for ALICE: 
  - No direct impact on ALICE installations
  - Only perturbation: access to cavern was suspended for ~1 h

- Remarks: 
  - Some confusion: no access, but no evacuation
  - At some point decided to inform people in cavern, and suggest them to leave if activity allowed. Had some difficulties to reach all people in cavern.

- Actions: 
  - Confirmed: “no access, but no evacuation” is correct
  - Re-enforce procedure on how to people in cavern (leave phone number, carry and answer phone)
06:10 : short power glitch at P2 (and rest of CERN)

- Many detector equipment tripped off
- All detectors were called to recover their systems
- Most services recovered by piquets (local or remote)
28.04 : power glitch

- **Cause:**
  - Short circuit on 400kV network supplying CERN (RTE: “Une activité avifaune serait à l’origine de ce court-circuit”)

- **Impact for ALICE:**
  - Many detector equipment tripped off
  - Many services (cooling, ventilation) off
  - Part of 18kV filter (SVC) off

- **Remarks:**
  - During access, magnets were off (would have tripped), and access for verification was possible
  - Relatively smooth recovery, no damage reported
  - Filter switched on transparently (only TCR)

- **Actions:**
  - None
01.05 : trip solenoid

- 15:13 – fast trip of solenoid magnet
- Piquet changed fuse on T reading system, ramp up ~16:20
- 17:45 – fast trip of solenoid magnet
- Disabled part of T reading system, ramp up ~19:00
01.05 : trip solenoid

- **Cause:**
  - Failing temperature reading

- **Impact for ALICE:**
  - No data lost (no physics beams)

- **Remarks:**
  - none

- **Actions:**
  - Collect feedback magnet piquet
02.05 : power glitch

- 02:59 : short power glitch at P2 (and rest of CERN)
- Beams lost, dipole magnet tripped, TRD HV crates off
- TRD recovered by expert (~4:00), magnet by piquet. Ramped up at ~05:10.
02.05 : power glitch

- **Cause:**
  - Short circuit on 400kV network supplying CERN (thunderstorm, close to Genissiat)

- **Impact for ALICE:**
  - Dipole magnet and TRD HV crates off

- **Remarks:**
  - Relatively small perturbation for ALICE
  - No damage reported

- **Actions:**
  - None
04.05 : cooling water stop

- 10:24 – stop of cooling towers at P2
  - Stop of LHC cryo
  - Stop of both magnets
  - Trip of 18kV compensator
  - Slow rise in temperature of mixed water
    - CRs switched over to ‘backup cooling’
  - Advised detectors to switch off water cooled equipment (or at least to keep a close eye on temperatures)

- ~11:00 - CCC/TI asks for green light to switch on SVC
  - Need to shut down non-UPS part of DAQ and HLT

- 11:50 – OK to switch compensator

- 12:00 – Compensator OK, confirmation cooling OK
  - Switch on again
04.05 : cooling water stop

- **Cause:**
  - Stop of point 2 cooling towers, due to fuse in control cabinet (human error)

- **Impact for ALICE:**
  - Both magnets off
  - Major reduction in cooling power (graceful switch off of detector equipment)
  - Shutdown of DAQ and HLT for compensator switch-on

- **Remarks:**
  - Major impact on LHC; cryo back only during the night
  - Problem restarting solenoid
    - Magnets were ‘ready’ at ~13:00, problem only discovered at ramp late evening
    - Could have been identified and fixed by doing ‘test ramp’ in the afternoon
  - No damage reported

- **Actions:**
  - Refine procedure for switch-on of compensator (already in preparation)
  - ALICE should insist in doing test ramp of magnets after fast trip

*ALICE Technical Coordination Meeting 07 May 2010*
Several ‘incidents’ in last 10 days
No damage reported
Improve documentation/instructions and procedures