P2 events & perturbations

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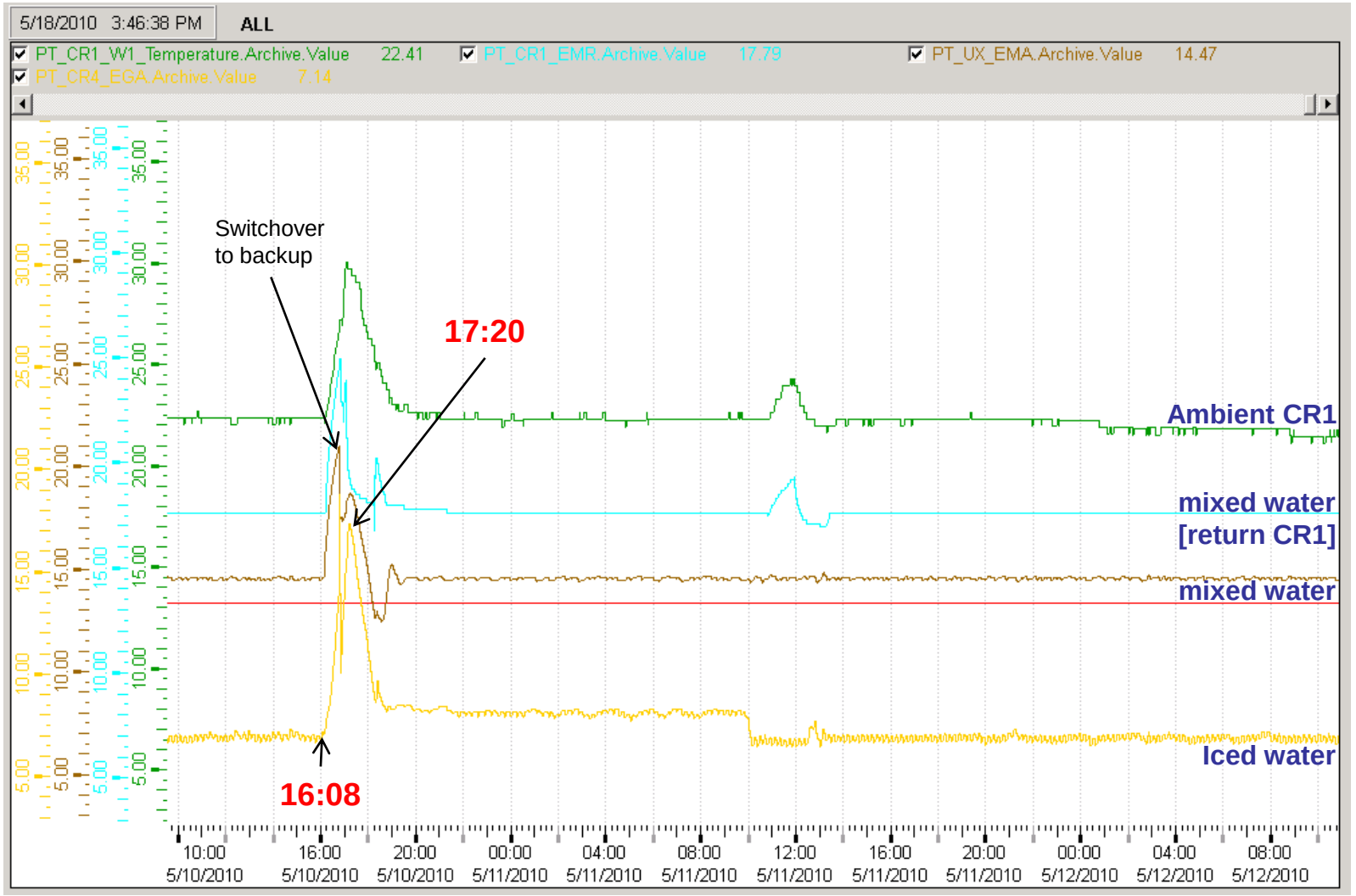
Overview

- 10.05 : Cooling water stop
- 11.05 : Water leak
- 18.05 : Power glitch

10.05 : cooling water stop

- 16:08, 16:24 – Power cut, affecting control of cooling water
  - Stop of iced water production
  - Slow rise in temperature of mixed water
    - CRs switched over to ‘backup cooling’ by CV piquet
- ~17:20 – Iced water restarted, cooling down
  - Running in degraded mode
- ~18:30 – All temperatures back to ~nominal
- 11.05 ~11:00 – Back to normal operation
  - Caused minor perturbation in water temperatures

10.05 : cooling water stop



10.05 : cooling water stop

- Cause:
  - Communication card in PLC lost due to power cuts
- Impact for ALICE:
  - Increase of iced and mixed water temperatures (both CR and UX)
  - Reduced cooling efficiency; as usual, most remarkable in CR1
  - Water temperatures of dipole close to switch-off limit
- Remarks:
  - Switchover to backup water for CRs had to be done manually
    - Automatic switchover only on ‘no flow’, not on ‘high temperature’
- Actions:
  - Modify logic for automatic switchover to backup (by EN/CV)

11.05 : water leak

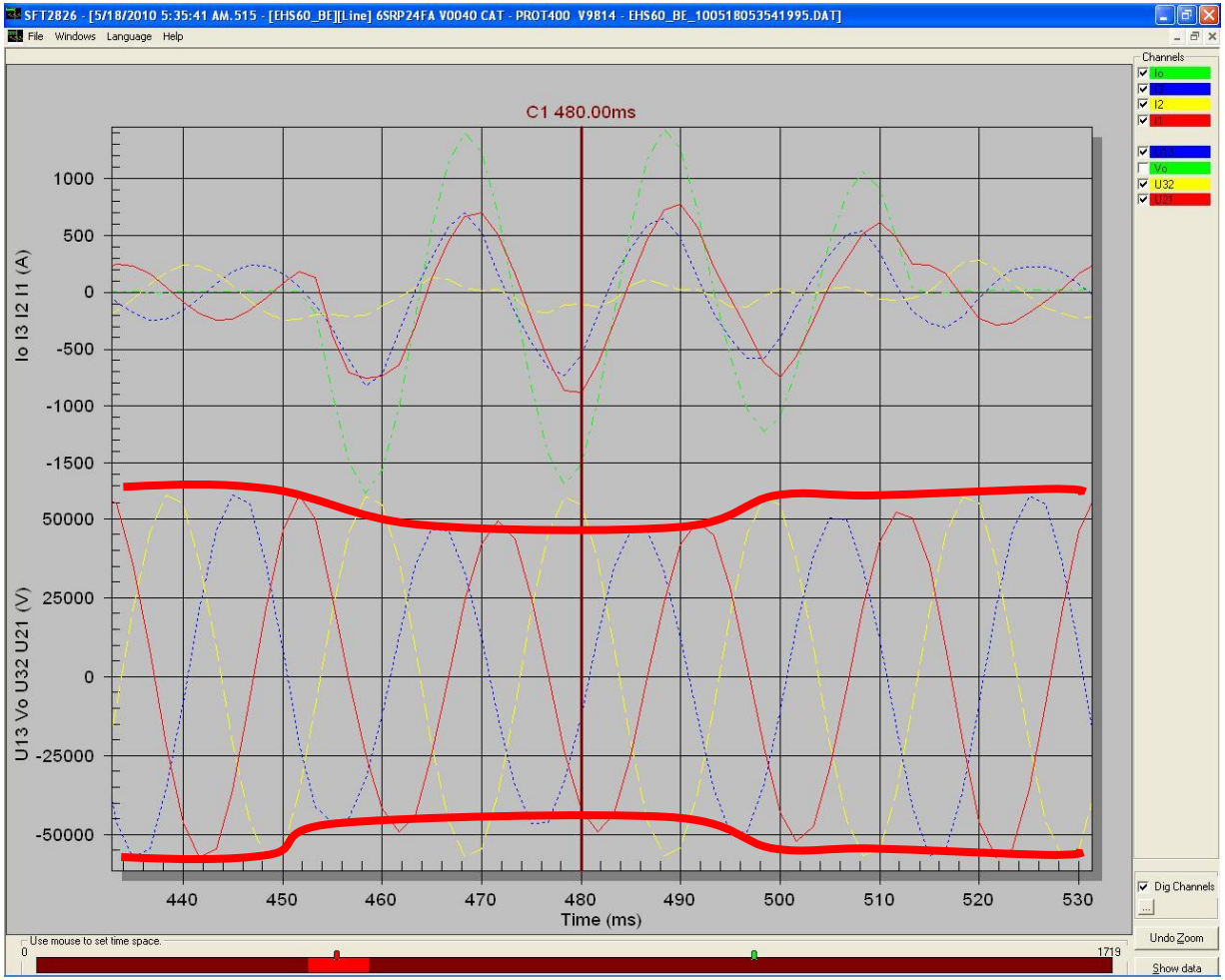
- ~11:00 – A water leak in one of the racks in CR4 was reported
- Intervention by P2 technicians to stop the leaking purge

11.05 : water leak

- Cause:
  - Leaking purge in rack CR4-X07
- Impact for ALICE:
  - Switch off of 2 racks for intervention (FMD and BCM, same power)
  - Water spilled on back of CAEN crate of BCM
    - No further damage reported
- Remarks:
  - Leak was spotted by somebody in CR4, but would also have triggered a water leak detection by DSS
  - Stopping the (normal) power to the rack was in principle not sufficient, as most equipment is on UPS (and would have caused major disruption when cut)
- Actions:
  - Restart regular inspection tours
  - Procedure for intervention on UPS powered racks

18.05 : power glitch

- 05:35 : short power glitch at P2 (and rest of CERN)
- 20% on 2-3 cycles
- Impact on most accelerators (beams lost) and some experiments (ALICE and LHCb dipoles)



18.05 : power glitch

- Cause:
  - Perturbation on 400kV network supplying CERN (no details from RTE yet)
- Impact for ALICE:
  - Dipole tripped off
  - No other impact reported
- Remarks:
  - Relatively minor impact
  - Confusion on ramping up magnet
    - CCC thought ALICE ramped up magnet
    - 'Forgot' to reset beam permit → Required additional ramp down - ramp up
- Actions:
  - Again, strengthen procedure on ramping magnets
  - Automatic reset of beam permit by magnet safety system before ramp-up