

PSB Report: Week 24

Availability

90.9%

**Blocking
Faults**

13

Total Faults

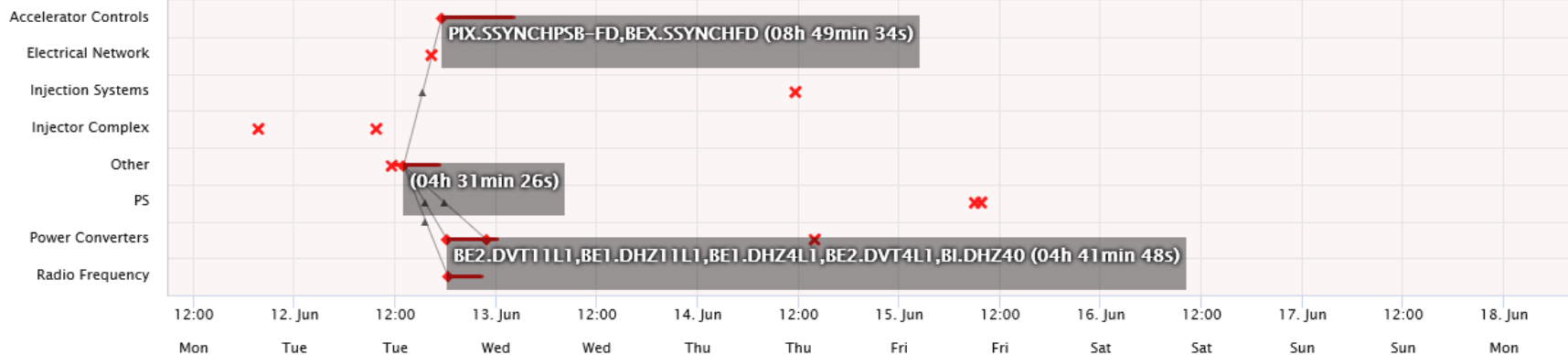
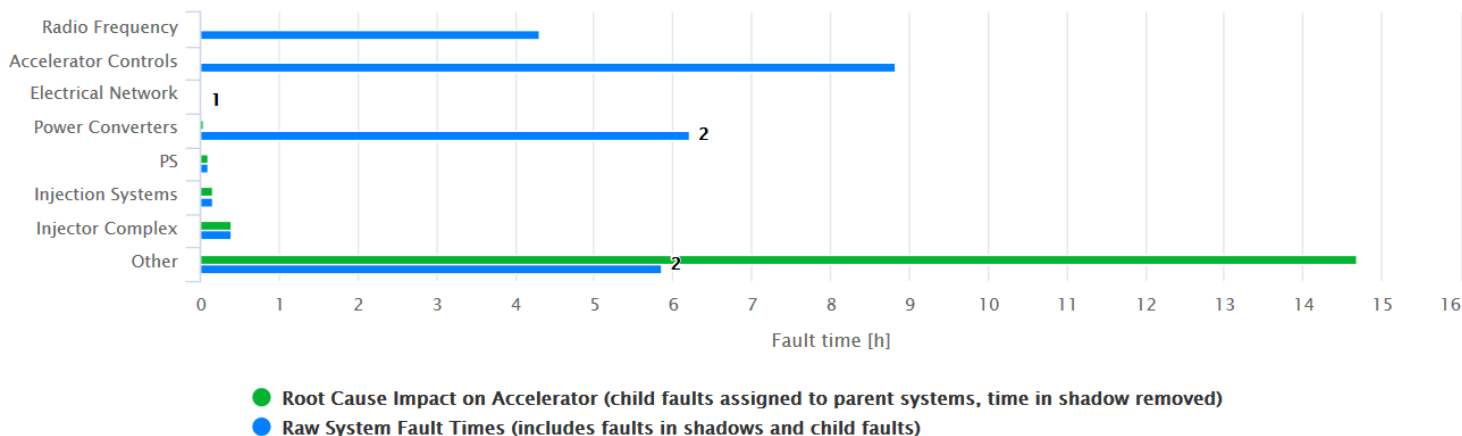
13

**Fault Duration
(overlap
excluded)**

15.3h

Blocking Faults by Root Cause

System Downtime Vs Accelerator Impact



PSB Report: Week 24

Availability

90.9%

**Blocking
Faults**

13

Total Faults

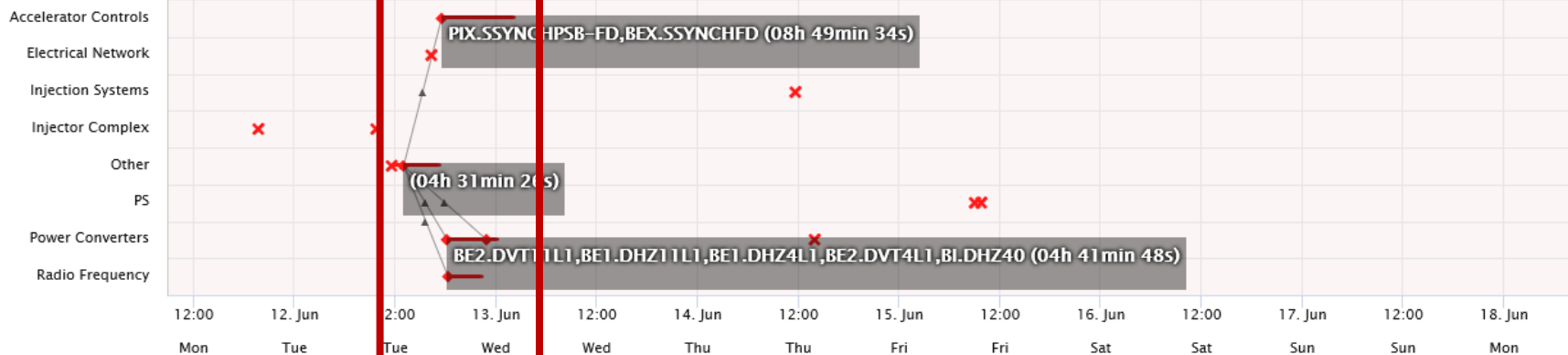
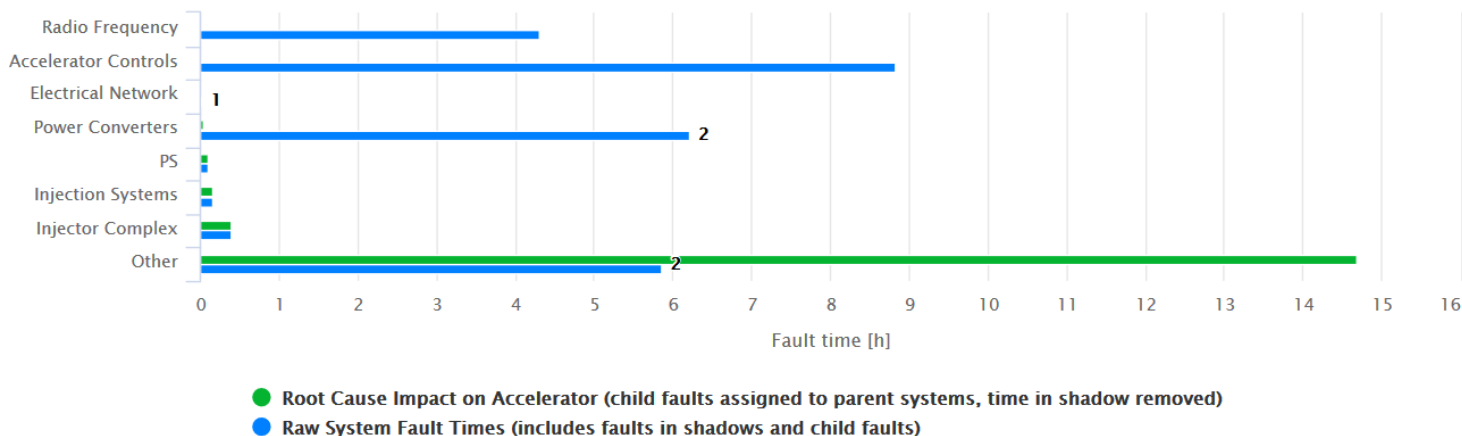
13

**Fault Duration
(overlap
excluded)**

15.3h

Blocking Faults by Root Cause

System Downtime Vs Accelerator Impact



AUG activated → About 14.5h stop

Major Event in PSB 12/06

Bettina's slide at IEFC

Event discussed at TIOC 13/06.

Sequence of event and facts:

- **Tuesday 12/06 11:38: PSB down** due to lack of electrical power (alarms in ccc) → found **AUG EUB8*25A open** (located close to PSB elevator top floor of b.361)
- EN-EL piquet and fire brigade investigated → protection glass of AUG button intact → not pushed, but **AUG button holder clearly damaged**
 - Remark: **AUGs are tested every year** (1 per zone also opened); a deformed AUG holder would have been immediately repaired at this occasion
- During the event there were locally present: Contractors from ARCE CLIMAT (duct installation for ventilation of storage room); maybe also painters and carpenters (tbc); works were done in an **area not considered as machine-critical**
 - Not yet understood why/by whom the AUG button holder got damaged
 - Remark: Pushing unintentionally an AUG button was also considered the highest risk for the planned EN-EL interventions during the run (see IEFC 01/06/2018)
- **Total PSB downtime ~14.5h**

Major Event in PSB 12/06

Bettina's slide at IEFC

Consequential damage to PSB equipment (abrupt cut of 18 kV supply lines):

- **Power converters:**

- BTP.DVT30 and BI4.DHZ70: **VERO supplies replaced**
- BI.DHZ40, BE1.DHZ4L1/DHZ11L1, BE2.DVT4L1/DVT11L1: **Fuses of the power stage blown; some power stages also burnt** → replaced with voltage regulation boards
- BE1.DHZ4L1 required an additional regulation board and the tape connecting the power stage
- BR.QX (new Q-strip PC): **Current transformer to be replaced**

- **Transverse Feedback:**

- **CPU card of ring3 broken**; CPU card replaced by a malfunctioning one → took long to resolve

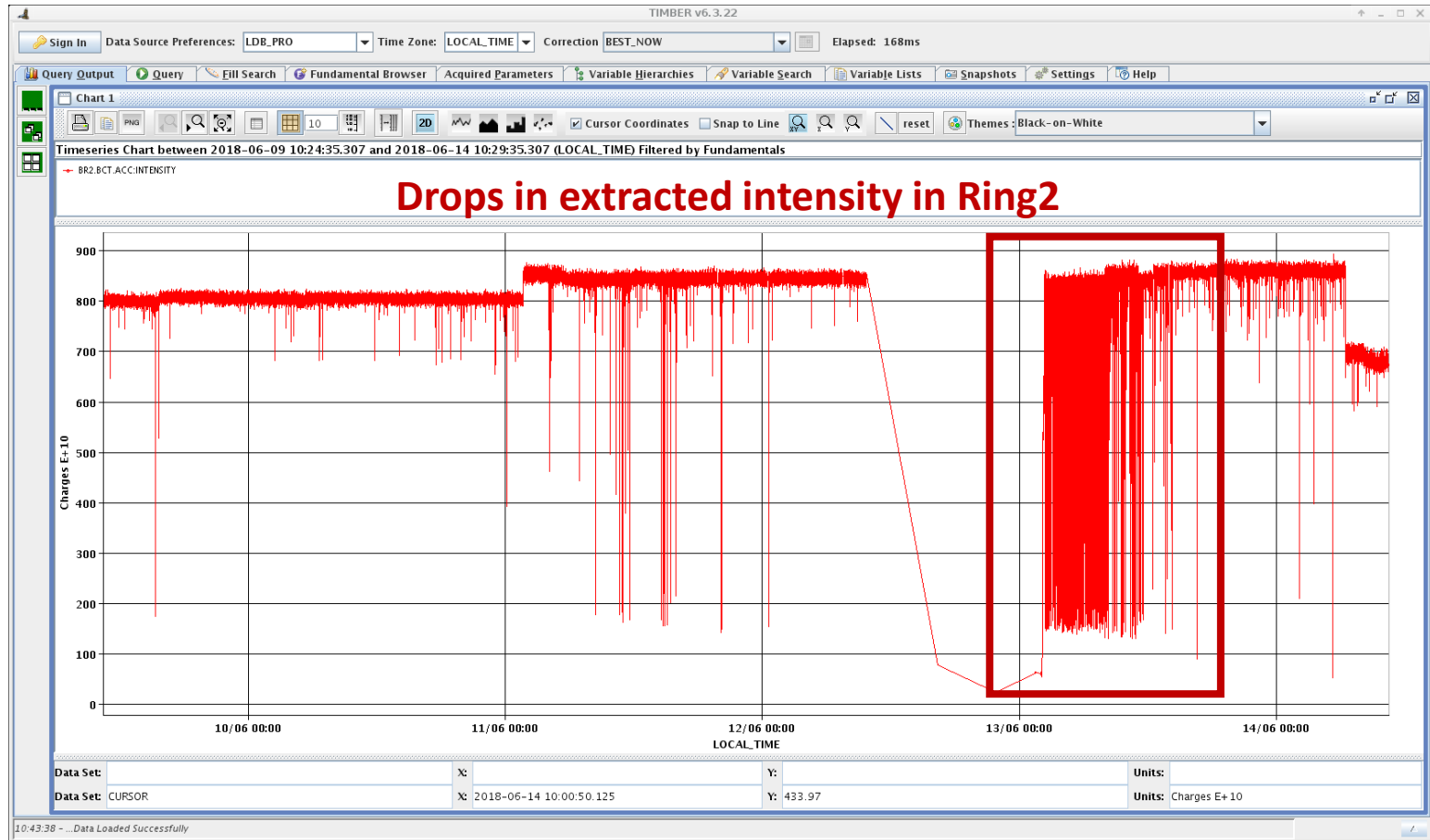
- **Beam Instrumentation:**

- FEC for BTVISO needed a **CPU replacement**

- **Timing:**

- Issue with PSB-PS synchronization timings; not a direct consequence of the power cut; first malfunctioning mezzanine boards were suspected and several HW exchanged, but after long debugging the issue was tracked back to the driver installer that was updated between the last two reboots and due to a bug the mapping of the mezzanine cards was incorrect → **solved**

PSB Operation: Issue with TOF (and high intensity beams)



- When the beam was back we noticed issues with TOF beam. Identified issue with one of the TFB **power amplifier broken**. Not due to the issue with the AUG as TIMBER showed occasional losses as well in previous days.
- Situation somehow improving over time (not clear why), nevertheless we **moved the production of TOF from R2 to R3 until ITS1, when the amplifier will be replaced.**