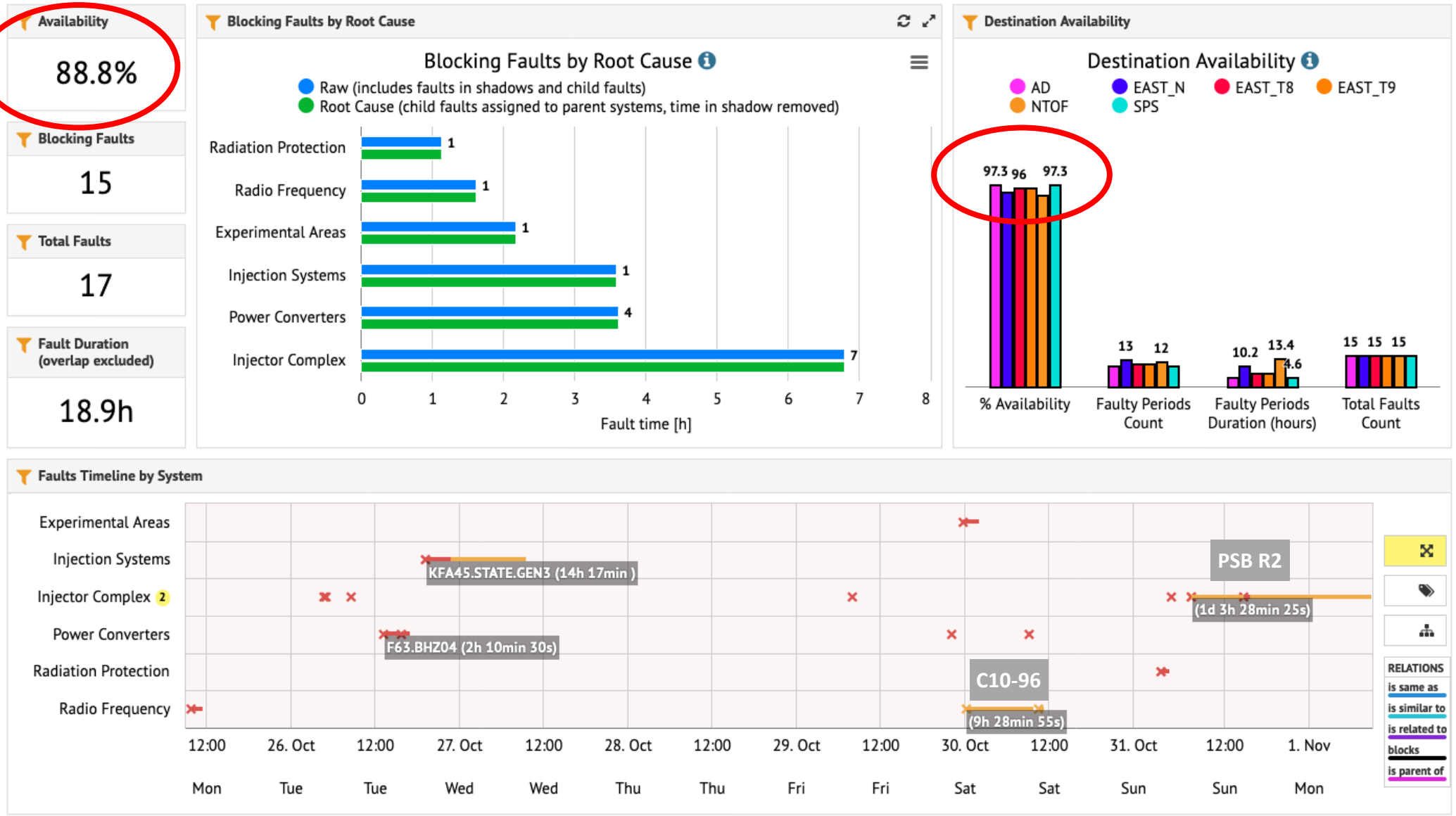
PS Report W43

Many thanks to the PS operations and coordination team
as well as all related equipment and support teams

Accelerator Fault Tracking (AFT)



Main Issues

- **Unavailability of beam from PSB ring 2 due to an extraction kicker problem on Sunday**
  - **Caused degraded beams and unavailability of TOF beam**
  - **We managed to set up the TOF beam coming from PSB R3, so TOF operation could be resumed after 5h**

- **PI.KFA45**
  - **Module 3 fault => kick for TOF could not be provided (larger than for other users), EAST_T8 degraded**
  - **Operators took up injection steering from the PSB and managed to set up injection with smaller kick!!!**
  - **repaired next morning, 14h downtime, but only 3h20 blocking**

- **F63.BHZ03**
  - **settings change by 75A to center beam**
  - **when EAST_N is played directly after EAST_T8, the beam is to the very right on TMMTV0009**
  - **T8.BHZ03 pulsed on wrong cycle due to missing setting for economy mode**

Main Issues (cont.)

- **C10-96 fault**
  - **needed expert intervention during the week-end**
  - **caused 9 1/2 h of degraded beam for the AD with 3 out of 4 bunches (with C11 used as spare)**
- **F63.BHZ04**
  - **tripped twice (3h23 downtime for EAST_N), +1/2 hours for follow-up repair**

- **Patrol lost in IRRAD Wednesday => Patrol done**
- **T9 area went not safe on Sat night, EAST beams could not be provided during 2h10**
- **REMUS radiation monitors: communication problem caused 1h07 downtime for all users**

- **EAST area waterflow issues**
  - **Still occurred once again on Sunday morning**

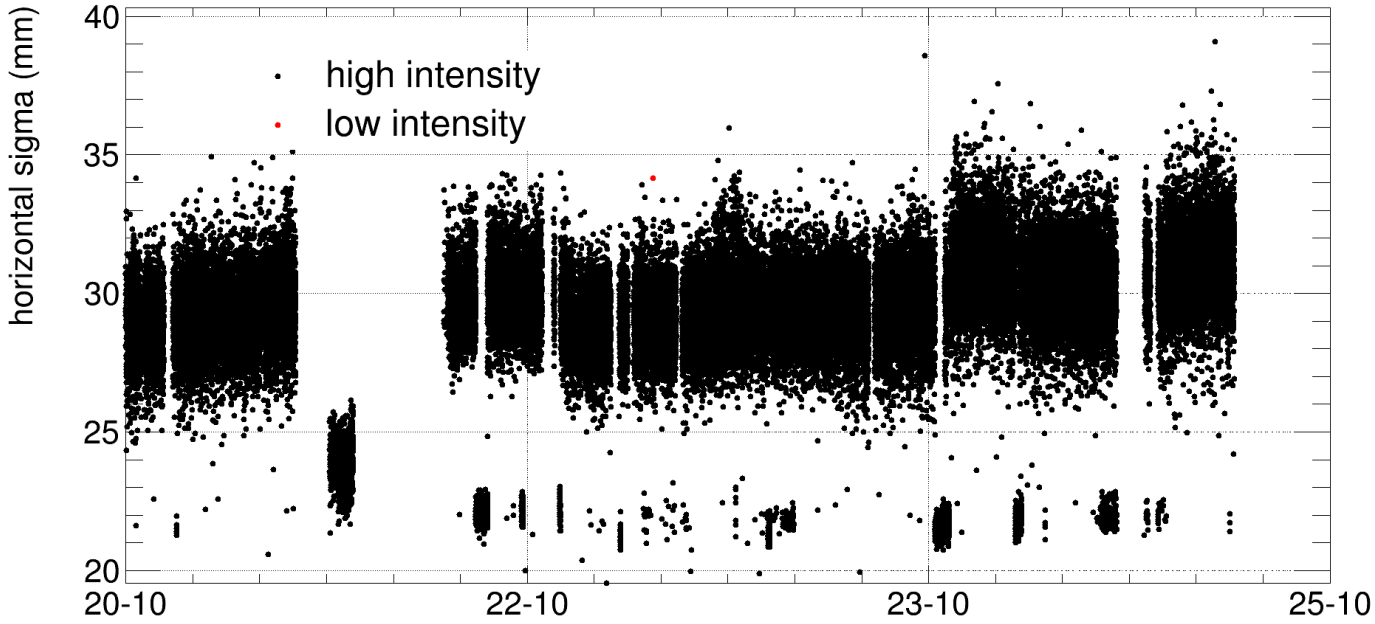
TOF

- Variations of beam size and position for some (short) periods
- Understood to be related to trips of a 10 MHz cavity
- SIS task in place to monitor position and beam size on the target
- Threshold set to 25 mm
- SIS interlock not working due to SEMgrid property FitAcq not updated

- TOF parasitic beam propagated to all EAST users
- TOF requests 200e10 p/pulse on EAST

- Dedicated MD for TOF this Thu afternoon

Michael Bacak



Other points

- The temperature in the central building reached the 1st interlock level of 26°C. CV intervened quickly and will watch closely if an intervention is needed
- Wire scanner 65H stuck, luckily outside the beam area

- HiRadMat
  - beam was set up with beam from the PSB with emittances of 2 mm mrad
  - initially gave too large emittances at extraction
  - could be set up with 2.3 mm mrad in H and 2 mm mrad in V

- The ILHC75#3b ion beam was accelerated to the flat-top
- Setting up of a beam decelerated to 1 GeV for aperture measurements was started

Status of operational beams

Fixed target beams	Status	Comment
SFTPRO (MTE 5 turn extraction)	Operational	**Up to ~2 · 10^{13} p/p** delivered to SPS
AD	Operational	**1.55 · 10^{13} p**
TOF	Operational	Delivered at **8.5 · 10^{12} p/b with pre-LS2 optics**
EAST	Operational	Extraction up to **60e10 p/p** to EAST dump, T8 (slow and fast), T9 and T10/11 **Fast and slow extracted ions** to EAST dump
LHC-type beams	**Status**	**Comment**
LHCPROBE, LHCINDIV	Operational	
LHC25 (72b)	Operational	Polished up to 1.3 · 10^{11} ppb; set up **up to > 2.6 · 10^{11} ppb** ε_h / ε_v (FT) **≈ 1.2 / 1.1 mm mrad (for 1.3 · 10^{11} ppb)**
LHC25 (12 to 48b)	Operational	**Settings synchronized with HI variant**
LHC25 BCMS (48b)	Operational	Available up to 1.3 · 10^{11} ppb (3 basic periods)
AWAKE	Operational	3 · 10^{11} ppb
Ion beams	**Status**	**Comment**
EARLY	Operational	**~1.5 · 10^{10} p/p**
NOMINAL	Operational	**8 · 10^{10} p/p**

Questions and Comments

PS Supervisor of week 44 – **Heiko Damerau**

8:45 Daily Zoom meeting during beam commissioning

Web address: https://cern.zoom.us/j/9372114100?pwd=L29BcmlHUENCdFBRSytXYVcrM1B4Zz09
Meeting ID : 937 211 4100
Passcode: 525463