



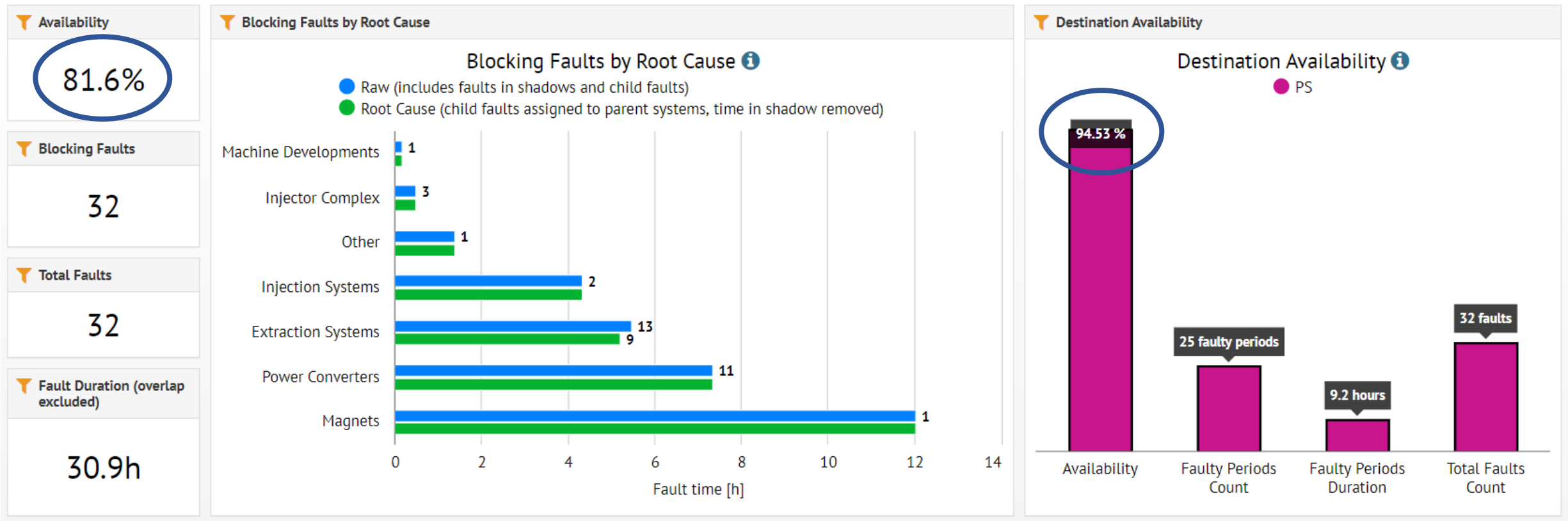
PSB FOM Report W15

F. Asvesta

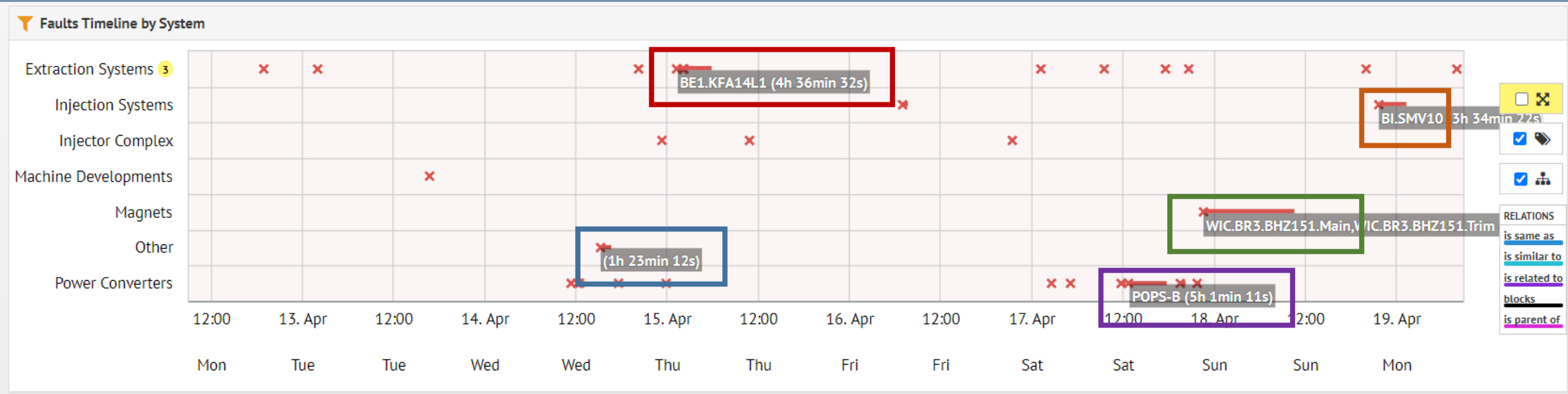
for the PSB operations and beam commissioning team

Availability

Machine availability was affected mainly by issues appearing during the **weekend**.
Discrepancies between **availability** & **destination availability** due to a fault on **only one ring**.



Main Faults



Beam Permit delivered by the **Extraction BIC** bypassed at the extraction kicker level and not removed from LS2.

R1 extraction kicker: new crate needed.

Spare converter on quads: bypassed for now to be checked during the TS.

Bending magnet in R3: Flowmeter needed to be replaced, access on Sunday morning.

Injection Septum: Faulty electrovalve, valve coil was changed, access on Sunday night.

Activities



Progress on operational users:

- **ISOLDE** – Initial setup for the **first time this week**, acceleration and extraction of $\approx 750e10$ in R1 & R3.
- **TOF** – Improvements on longitudinal characteristics, orbit correction & special bends, extraction.
- **LHC25** – Improvements on longitudinal distribution at flat top & investigations of different WP evolution to minimize the transverse emittances.
- **MTE** – Operational user updated with all the new settings from the experts. Currently capable to function with $\approx 600e10$ per ring & vertical emittances **3-3.5 μm** .

Other studies:

- **Loss maps & resonance compensation** – Studies on the 160 MeV flat cycle to understand the interplay of the various corrector magnets needed for the compensation of the observed resonances.
- **Stripping foil characterization** – Emittance measurements for all the available foils in all rings. Smaller blow-up was observed for the GSI-200 foils.
- **LIU WS** – Measurements with the new and old devices for benchmarking and definition of the operational settings.

Outstanding issues & Next steps

- **Ring & extraction BPMs** – Studies with extraction BPM experts to understand observed jitters. Follow up measurements planned for this week.
 - Ongoing discussions with experts to understand timing of the published data.
 - **Energy matching** – Readjustment needed for all users, to be followed up with systematic measurements.
 - **BE.BSW14L4** – Extraction bumpers not pulsing on ZERO user & pulsing on different values for the ISOLDE user (1.4 GeV). Bumper not capable to pulse at nominal values at the 2 GeV cycles following these users. Extraction trajectory was affected. Experts are working on a permanent solution, until then the bumpers are pulsing on the ZERO user.
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- **Technical stop** – Multiple interventions planned over the 2 days.
 - **Operational beam setup** – Continue setup for the **ISOLDE**. Start preparing the **AD** user. Continue work on **LHC25** to improve the characteristics (mainly for high intensity).
 - **POPS-B** – Work on regulation, detailed plan for the next steps.