NORTH Availability Statistics 2023



Accelerator Fault Statistics 2023, RAWG, 11.08.2023

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"Information" I

These slides are a template to summarize the availability of your machine in 2023. Please correct and complement the slides considering following questions:

- What are the main events & reasons impacting availability?
 - Does the data show them and is it matching your expectations?
 - Is any crucial aspect not visible in the data that we should have a closer look at?
- What is the outlook for next year?
 - Are you expecting some interventions over the YETS that might improve availability next year?
 - Could certain circumstances lead to an availability degradation?



"Information" II

- There will be additonal questions on each slide.
- All charts can be regenerated from <u>here</u>
- For further inspiration what to put in the slides, please have a look at https://indico.cern.ch/event/1104980/



Considered Times

- From start of NORTH physics to end of run
 - → 24-04-2023 00:00:00 30-10-2023 06:00:00
- All excluded times from NORTH FOM dashboard

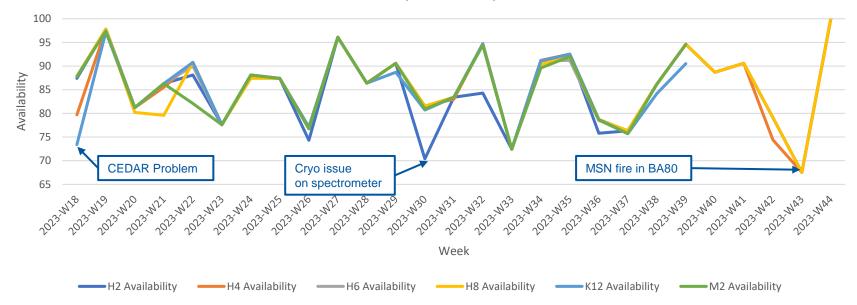
Excluded time periods – Clear all
+ [Accelerator Complex 2023] Injectors: Dedicated MD x
[Accelerator Complex 2023] Injectors: Dedicated MD 🗙 [Accelerator Complex 2023] Injectors: Dedicated MD 🗴 [Accelerator Complex 2023] Injectors: Dedicated MD 🗴 [Accelerator Complex 2023] Injectors: Dedicated MD 🗴
Accelerator Complex 2023] ITS1-2023 x [Accelerator Complex 2023] Injectors: TS recovery x [Accelerator Complex 2023] Injectors: Cool-down / Low int. test x [Accelerator Complex 2023] SPS: Ded. BC Pb ions x [Accelerator Complex 2023] SPS: Ded. BC
[Accelerator Complex 2023] SPS: Ded. BC Pb ions 🗴 [Accelerator Complex 2023] SPS: Ded. BC Pb ions 🗴 [Accelerator Complex 2023] SPS: Ded. BC Pb ions (end) 🗴

 (Should these times be wrong, please correct the times above or add additional excluded time periods and let us know – we can update your template)



Weekly Availability by Destination

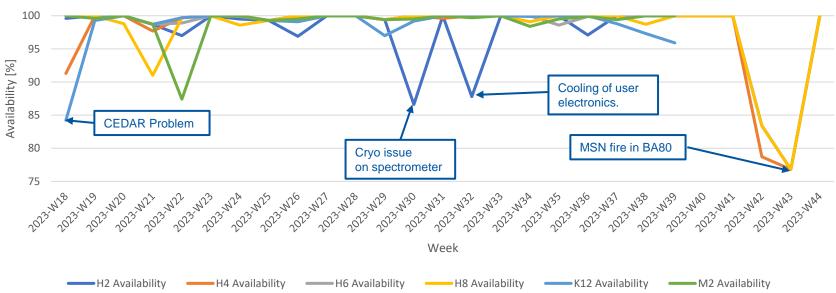
Weekly Availability



What are the main events & reasons impacting availability? Please mark them. Accelerator Fault Statistics 2023, RAWG, 11.08.2023

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Weekly Availability by Destination – w.o. injector complex



Weekly Availability by destination - w.o. injector complex

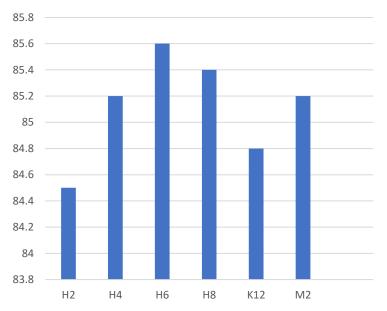
What are the main events & reasons impacting availability? Please mark them. Accelerator Fault Statistics 2023, RAWG, 11.08.2023

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Global Destination Availability

Please elaborate on the main events and downtime reasons & whether there are mitigations foreseen. Can be multiple slides.

Destination Availability [%]





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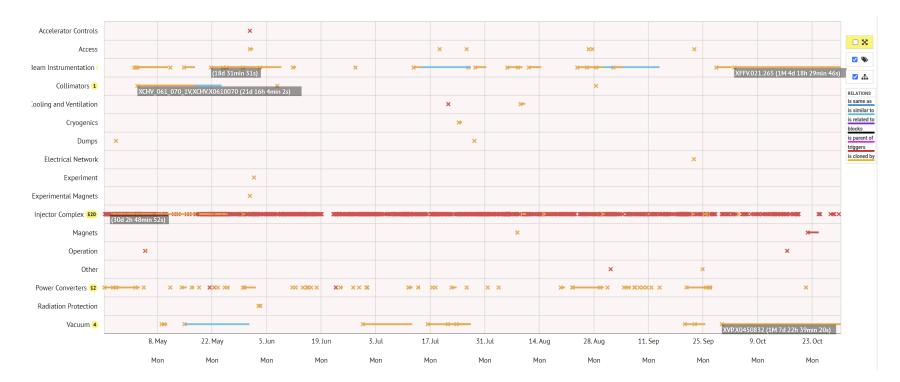
System Downtime

- Not relevant for EAST and NORTH
- For Cardiogram :
 - Most faults coming from injector, Power Converter, and beam instrumentation (nonblocking).
 - During YETS a big maintenance on all power converter will take place to have them available until their replacement by FGC (NA-CONS).



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System Downtime





Summary & Conclusion Slides

- Still suffering from the old equipment in North Area (PC, magnets, instrumentation, etc..) NA-CONS will improve it but on a long timeline.
 - MSN fire "hopefully" happened at the end of the run.
 - Power converter still very instable looking forward to their replacement.
- What is the outlook for next year? Are there any availability problems expected unless they are addressed over the YETS?
 - After some fault at the start Big sister was helpful for injector fault registration.
 - Dashboard filter not clear between general, dashboard and components.

