

Run Coordinator Report:  
March 30 through April 6 2016

Simona Malace

# Wednesday March 30

## Running at 5 pass

- Beam was off for a while, got beam back during swing – wanted to take a Carbon hole run to check beam centering
- MCC needed to reboot IOCHLA to ramp up the raster magnets
  - a soft reboot did not work, MCC needed access to the Hall to do a manual reboot
  - the reboot of IOCHLA led to a mismatch of the Moller quads
  - MCC needed access to the Hall to bring up the Moller quads
    - after the reboot one of the raster magnets (Y beta) wouldn't ramp up; Bill Gunning came in and replaced the power supply which fixed the issue (last spare was used!)
- While this was happening the 5<sup>th</sup> pass RF separator tripped; was reset and got beam by 9 pm
- After the Carbon hole run we moved to production on LH2 with 15 uA

# Thursday April 31

## Running at 5 pass

- Took production during owl and half hour during the day shift
- Beam went away in the morning for beam studies; we put the Hall in controlled access
  - MCC made an access to look at the Moller quads power supplies
  - Barak and Longwu also made an access to troubleshoot the wide PEDs seen in the RHRS
- Cherenkov
- Got beam back by 1 pm or so and Sasha and Roman started the Moller measurement
  - took a while for MCC to set the Moller quads
  - Moller measurement done by 5:30 pm; polarization ~ 87%
- After checking beam centering with Carbon hole run resumed production on LH2
- Middle of swing MCC called saying that due to beam losses they would limit us to 9 uA (Hall D had priority and did not allow for “extensive” troubleshooting); in the end the crew chief raised the limit for loss integration from 1? to 2 and we got close to 15 uA

# Friday April 1

## Running at 5 pass, in principle

- Took production during owl until 1:30 am then beam off due to accelerator North Linac DP vacuum
- The beam was restored sometime during the day shift: Doug and Yves did a dispersive beam energy measurement: 10,971 MeV assuming 34.3 deg bend (need survey at the start of Summer), 10,976 MeV from Yves' BEM code
- After the beam energy measurement MCC got busy with restoring beam to Hall B (priority over the weekend)
- We got no beam during swing; beam was restored to the hall at around 5:30 am during owl Saturday

# Saturday April 2

## Running at 5 pass, in principle

- When we got beam back we did a harp scan; widths were about 7 times larger compared to what we got before ( $< 0.5$ )
- Asked MCC to look into it: they found that after the beam energy measurement of Friday the Moller quads were not set with the correct Bdl – MCC had to reboot IOCHLA and after the restore the Moller quads were set to incorrect values
- After the Moller quads reset we checked the beam with harp scans and Carbon hole target and were in production by 11 am
- Beam until 13:10 : MCC told us that they see huge rates in Hall B halo counters and they need to re-tune
- Useful beam returned around 18:30, we did harp scans and checked rates with the raster target then moved to production on LH2 at  $\sim 15$  uA
- Lost beam at 21:04 due to injector issues
- We got beam back by 23:21 (which was quite surprising)

# Sunday April 3

## Running at 5 pass, in principle

- After harp scans we took a Carbon hole run and readjusted a bit the beam position: from BPMA/E  $x = 0.5$ ,  $y = -.21$  to BPMA/E  $x = 0.6$ ,  $y = -2.1$
- Typically Carbon hole runs are taken with DVCS\_calor and VDCs HV off; Charles H. wanted a longer Carbon hole run with VDCs HV on (look at the raster pattern/BPM correlation); we took such a run after we made sure the beam was centered on the target
- by 1:15 we were ready for production
- ran production until ~7:30 am when we went to a short escorted access so that Heidi can check the RHRS Q1 power supply that tripped sometime in the morning and would not reset remotely
- we resumed production by 8:15 and ran until about 12 when MCC started to have problems with the 5<sup>th</sup> pass RF separator
  - “BLMs in the separation region are tripping the machine; also in order to restore beam to Hall B MCC needs to shut down beam to Hall A”
- We got useful beam back by 18:20 when we ran harp scans (showed some weird shoulder) and checked the rates with the raster target, beam raster 2 by 2

# Sunday April 3

## Running at 5 pass, in principle

- We were in production mode by 19:00
- Had to stop at 19:30 because accelerator issues
- Beam came back at 21:57 but only for one hour
- Beam was off until 3:30 am Monday owl

# Monday April 4

## Running at 5 pass, in principle

- We ran production on LH2 from 3:30 am until 9:00 am
- At the MCC meeting in the morning Arne decided to take the machine offline because of how unstable it ran during the weekend
- at that point there was still some faint expectation that we will come back at 5 pass

## Running at 5 pass, not anymore

- by 10:30 am or so Arne called and said that MCC cannot restore 5 pass to Hall A (the viewer and BPM repairs needed in the South Linac in order to restore 5 pass had to be aborted because of too high radiation levels)
- DVCS spokespeople decided to change to 2 pass for “one night” to take DVCS calorimeter data; Arne agreed

# Monday April 4

## Running at 2 pass

→ During the day shift we change configuration in the hall to go from 5 pass running to DVCS calorimeter calibration running at 2 pass:

LHRS: from negative to positive polarity ,  $p_0$  from 3.36 to 2.127 GeV, angle from 24.925 to 38.04 deg

DVCS calorimeter: from  $\theta = 10.1$  deg and  $d = 2.5$  m to  $\theta = 26.5$  deg and  $d = 6.13$  m (this “bumped ” RHRS from 48.75 deg to ~62 deg)

## Running at 2 pass?

→ we were ready for beam during the day shift; we knew that beam during the swing shift would be unlikely

→ the PD called around 7 pm: no beam during swing but we may get beam sometime in the middle of the owl shift

→ we had the just the TO in the counting house during swing and decided to be fully staffed for owl

# Tuesday April 5

## No running

→ Frederic called MCC for an update shortly after midnight; operator tells him that we won't have beam for days?!?

→ I called the crew chief: he said it's unlikely we will have beam during owl; I asked him to have the PD call me;

→ the PD called, said things did not go as well as expected – I requested a log entry by MCC stating the status of beam to the halls during owl shift, it was made at 00:55

### **No Beam expected to Halls this shift**

Lognumber [3395332](#). Submitted by [mmerz](#) on Tue, 04/05/2016 - 00:55.

Last updated on Tue, 04/05/2016 - 00:55

Logbooks: [ELOG](#)

Tags: [Readme](#)

Entry Makers: [mmerz](#)

With CASA's input, informed PD that Machine Set-up is expected to take longer than this shift (Tue, Apr 5 Owl).

Currently down due to issue with NW muxed BPMs.

→ I told the Hall A shift crew that they can go home except for the Target Operator but they all stayed on shift anyway

Side remark:

-> shortly after midnight I called Hall D counting house: the shift leader said he was told Hall D might get beam around 4 am

### Owl Shift Summary

Lognumber [3395326](#). Submitted by [semenov](#) on Tue, 04/05/2016 - 00:20.

Last updated on Tue, 04/05/2016 - 07:31

Logbooks: [HDLOG](#)

00:00 Take over from Zisis. Christina is the shift worker. No beam.

00:55 Entry # 3395332 in ELOG: "No beam is expected to Halls this shift (Tue, Apr 5 Owl)".

04:00 Dmitry is the shift worker now. No beam.

07:30 No beam.

# Tuesday April 5

Status as of now according to the MCC whiteboard:

→ Machine recovery: Tuesday DAY, SWING + Wednesday OWL + Wednesday DAY, SWING?

→ Hall in controlled access: Heidi is troubleshooting the RHRS Q1 power supply which tripped again last night

→ Arne will post an update about the status of the machine recovery to the halog by the end of the DAY shift

→ For DAY and SWING Tuesday only TO needed in the CH (made a log entry already)

→ Was waiting for Arne's update but probably only TO in the CH for Wednesday OWL, will see for the rest

→ At the MCC morning meeting Arne "suggested" that we think well about whether we still want 2 pass if the machine comes online Thursday, for instance; it is wise not to have a pass change close to the weekend; DVCS may give up on 2 pass, will be discussed at the 4 pm meeting