

Minutes of the 165th EATM Meeting held on 16th January 2024

Minutes and slides available at <https://indico.cern.ch/event/1368065/>

Present: D. Banerjee (BE-EA, chair), L. A. Dyks (BE-EA), A. B. Roldan (BE-EA), D. Bozzato (HSE-RP), M. Brugger (BE-EA), N. Charitonidis (BE-EA), H. Danielsson (EP-DT), J. Devine (EP-DI), F. Dobos (HSE-OHS), F. Duval (EP-SME), R. Folch (BE-EA), L. Gatignon (EP-UFT), X. Genillon (SY-EPC), S. Girod (BE-EA), A. Goillot (BE-EA), M. Jaekel (EP-DT), D. Lazic (EP-UCM), M. Lazzaroni (BE-EA), J. Lehtinen (EN-CV), D. Mcfarlane (EN-AA), M. Mentink (EP-ADO), B. M. Veit (EP-UFT), L. Nevay (BE-EA), B. Rae (BE-EA), F. Ravotti (EP-DT), G. Romagnoli (BE-EA), A. Rummler (EP-ADO), B. S. Sulpice (EN-EL), M. Santos (BE-EA), D. Tshilumba (HSE-OHS).

Apologies: L. M. Bueno (EP-UFT).

News and Follow-Ups (D. Banerjee)

The minutes from the previous EATM were approved.

Action items (D. Banerjee) – Slides

Installation of the new ventilation in the East Area has been completed. Shielding of the East Dump F6D.TDE018 is completed with a visit with RP to be organised (Action → D. Banerjee). No further comments on other actions.

Key information from Different Meetings

SBA Highlights (M. Lazzaroni) – Slides

The ECR for the AMBER PRM run including the installation of the hydrogen gas supply for 2024 has been prepared and approved as indicated in the ECR section below. The support platform will have to be modified for the APX run with LH2 and a meeting with AMBER to discuss this is scheduled for Wed. 17th Jan.

ECRs (G. Romagnoli) – Slides

The status of the ECRs for information and future approval was summarised and the full list can be found in the slides. Presented for approval:

- 1) Infrastructure changes in EHN1 for the future AMBER proton radius measurement. **Approved**.
- 2) Renovation of the gas distribution infrastructure for building 887 (Jura-side). The activity is postponed until YETS 24/25. The document will be circulated for another week for comments and then revisited at the next YETS. **M. Jaekel** will review for GIF++. **Postponed**.
- 3) Installation of the new sprinkler system in BA80. **Approved** (works on-going).
- 4) Installation of an improved shielding for the F6D.TDE018 beam dump. The work has been completed now. Only a few pictures are noted to be updated in the ECR but it is **Approved**.
- 5) HiRadMat new light screen monitor (BTV) installation in the TNC and TT61. **Approved**. This will go to the IEFM for approval.
- 6) Change of expert names for East Area beamlines magnets. A list of changes to be completed was presented and attached as a separate item to the agenda ([link](#)). **D. Banerjee** asked for those impacted to please check the table and the deadline for completion is the end of January 2024. **Approved**.

EYETS Planning Update / Critical Paths (B. Rae) – Slides

The YETS planning with relevant dates was presented, mostly unchanged from the past presentation. The East Area activities are on-track without issue. For the North Area, the sprinkler system installation started

this week and is on-track to finish in February and is no longer on a critical path. The fire detection activity is delayed due to a sub-contractor issue and a new sub-contractor is nearly finalised. However, the only suitable time conflicts with the cabling activities, which take priority. A suitable time will be arranged.

An XDTV will be installed between H4D and H4E and therefore, EN-AA will re-test the access system in all zones of H4. This will require one day without access to all zones of H4 to be arranged at a planning meeting on Monday 22nd January. This will be followed at the next EATM.

B. Rae highlighted that magnet water circuits will be reengaged from the end of February and users are reminded they may be powered from this point onwards.

On 29.01.24 and 30.01.24, there will be no access to the whole North Area for the AUG test. Please see the slides for the full list of access dates. The planning Gantt chart is available via the link on the last slide.

F. Duval commented that there was some confusion of the duration of blocked access for access system tests as there were discussions that this will take 2 hours but the planning quotes 1 day. **B. Rae** confirmed that it is indeed 1 day on 9th February.

M. Jaekel commented that two days without power is difficult for GIF++ but they would coordinate with EN-EL to have access as soon as possible. **B. Saint Suplice** commented that it was three days in the past and this is made to be as quick as possible.

All users are requested to notify B. Rae for any urgent access during the No Access periods.

M. Jaekel inquired if vacuum pipe is required in H4 for NP04 to run. If feasibly for NP04, GIF++ would request to have ~2m gap without beam pipe at the end of the bunker to be able to move new detectors in and out.

N. Charitonidis responded that he will investigate what part of the vacuum pipe needs to be installed.

CEDAR Refurbishment Plans During YETS 23/24 (M. Lino) – Slides

The CEDAR issues encountered in 2022 and 2023 were summarised. The issues were compiled into a table as per slide 4. Due to the age of the CEDARs these included many subsystems. A consolidation plan from 2026 – 2028 is planned and a short-term refurbishment plan will take place from 2023 – 2026. Approximately 2 CEDARs will be refurbished per YETS and the two in M2 have been chosen for YETS 23/24 as a priority. Due to delays in the availability of spare parts, one CEDAR will be refurbished first and then if time permits and parts are available, the second will be refurbished to be ready for installation before the start of beam commissioning.

In 2023, new optics were investigated to validate the manufacturing process of new optics for the N-type CEDAR. However, from tests conducted by **D. Banerjee**, the new optics were found to be less efficient than the previous ones. Therefore, further tests will be required in 2024.

D. Banerjee noted that the M2 CEDAR installation takes longer than others as they have a thermal housing which should be accounted for, to be ready in time for beam commissioning.

B. Moritz Veit gave thanks for the effort in the refurbishment as it was noticeable and appreciated by AMBER.

B. Veit asked that if time was insufficient, would a partial renovation be done of the second CEDAR. **M. Lino** responded that it is time consuming to open a CEDAR purely for a single change, so it would be likely that the full renovation would be done or the second will not be opened. **B. Veit** noted that usually the software is the same for the CEDARs so we should be careful if the mechanical parts in the two are different thus causing different performance. **M. Lino** assured that it is foreseen that both will be refurbished. **D. Banerjee** highlighted that the software will be updated independently together with the replacement of the pressure sensors and, for AMBER, their PMT readout should be ready by the 26th March to have enough time for commissioning of the detectors.

B. Veit inquired how the identified double peak beam component near the CEDARs will be tackled. **D. Banerjee** responded that this is understood and with the realignment of M2 this should be improved. Tests are planned during commissioning to confirm this.

GIF++ AUL Test (J. Devine) – Slides

AUL tests were conducted on the 22nd of September due to the modification of the GIF++ shielding. M. Van Dijk and D. Banerjee noticed power cuts in H8 coincidentally. This event did not propagate to the CCC as the AUL does not create any alarm. Power was however restored on the day.

A specific test was done last Friday 12th January to investigate this. It was found the GIF++ AUL affected 3 switchboards beyond the expected ones. One MN coil malfunctioned during the test. As follow up actions, the MN coils in EXD409/HN1 and EXD402/HN1 will be removed to prevent H8B being affected. The removal document has been updated and **M. Lazzaroni** noted that the BE-EA DSO signed the document yesterday and have asked HSE to release the document. Once validated, EN-EL can intervene to remove the AUL link rapidly. This must happen before 26/02/2024 to take place before the MADMAX operation. The MN coil may be removed from EXD404/HN1, removing the impact on the H8C zone, only after the replacement of EXD430/H1 (the GIF++ control room switchboard), to permit decoupling from the H8C zone. Currently, this is planned for replacement in LS4 as part of NA-CONS and it is recommended for this to be accelerated to YETS 2024/25.

M. Van Dijk noted that MADMAX will use the Morpurgo magnet on the 1st of February however, the cooling circuits are powered from a different electrical circuit so this should be transparent for the MN coil removal.

D. Banerjee asked what is the impact of not replacing the switchboard until LS4. **M. Jaekel** commented that if the switchboard breaks and GIF++ is therefore not available for three months, this would have a direct impact on HL-LHC; so it would be preferable to produce this now in case of risk of failure.

News from Experiments

AMBER – B. Weit – installation is on-track without issue.

NA62 – F. Duval – there is limited access to parking outside due to upgrade works but otherwise YETS activities are proceeding as planned.

NA64 – L. M. Bueno – no report.

NA61 – P. Podlaski – no report.

CLOUD – A. Onnela – The “Reception asservisement désenfumage CLOUD” is scheduled for Wed 17 Jan at 8:30 – 9:30, taking place in the East Hall, and for which the link person from CLOUD and EP Safety Office is Evelyne Dho.

IRRAD/CHARM – F. Ravotti – Maintenance interventions are underway in time for beam commissioning. The IRRAD cryostat, after a long cooldown has been moved to the storage area on Tue. Jan. 23rd. The first version of the common IRRAD/CHARM operation schedule has been produced (still need to include the CSBF run and the details of the CHIMERA/HEARTS activities). An ECR for the high intensity operation with 80×10^{10} protons/spill is being prepared and will be presented at the EATM.

D. Banerjee asked if we can test the timing of the 1s spill for the ion run and its impact on the beam instrumentation before beam commissioning. **F. Ravotti** responded that discussion are ongoing between the SY-BI and timing experts to enable the configuration of the beam instrumentation for the 1s spill: to be follow-up in the coming weeks.

GIF++ – M. Jaekel – Annual maintenance was relatively extensive but commensurate with the age of the equipment. The DSO test for the source permit was completed. One comment from the DSO test was that in a certain scenario with a false signal there was no audible alarm but this is felt to be unnecessary as an operational dosimeter that is required has an audible alarm. N. Charitonidis will follow up with M. Jaekel and BE-DSO offline to clarify this (**Action → N. Charitonidis**) Operation is now managed by **P. Martinengo**.

Hiradmat – A. Goillot – the dump re-installation is progressing well as is that of the new collimator. Feed-throughs in a wall will be made soon and overall, all is on-track.