ELENA Project

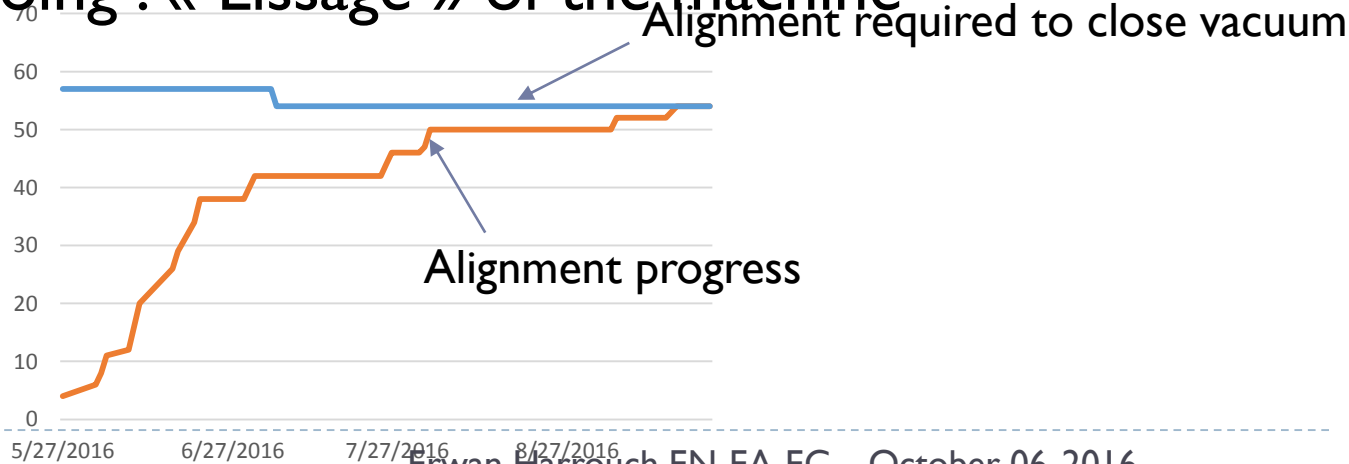
E. Harrouch

Installation follow-up & Planning update
+ Hardware Commisionning

Erwan Harrouch EN-EA-EC October 06, 2016

Alignment

- Statut de l'alignement : 100%
  - Magnets :
    - All the magnets are aligned
    - Correctors magnets are not aligned, the survey only measures their position after installation : ~~Difference of 5mm in the radial direction (Toward the inside of the machine)~~ Corrected to ~1mm of difference
  - All the other beamlines components are aligned
- Last step on-going : « Lissage » of the machine



ELENA Magnets status w40

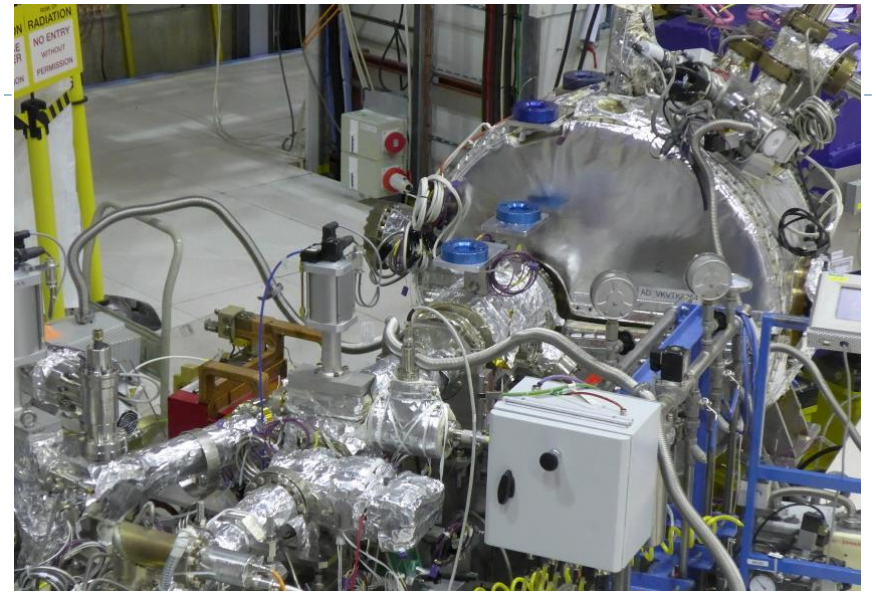
12 MCCAY H/V correctors status:

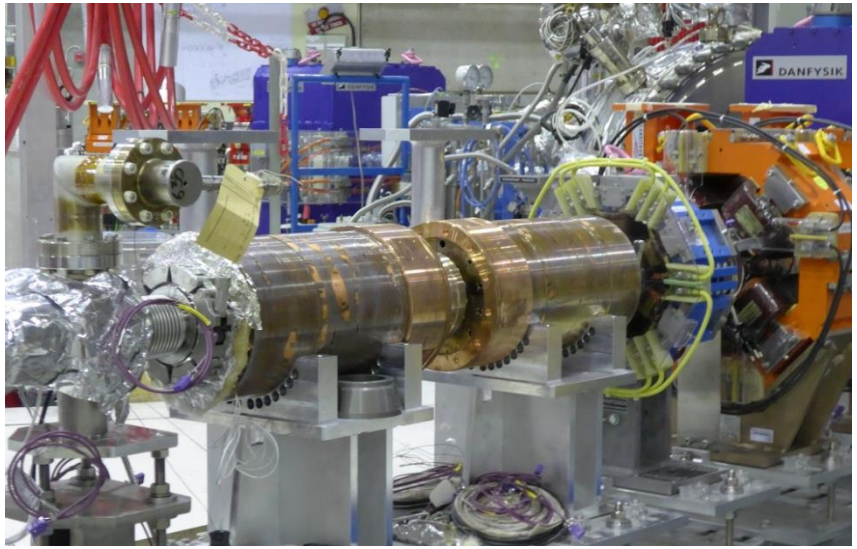
- **1-MCCAY03: Installed in position LNR.MCCAY.0130.;**
- **2-MCCAY04: Installed in position LNR.MCCAY. .;**
- **3-MCCAY05: Installation ongoing in position LNR.MCCAY. .;**
- 4-MCCAY06: Magnetic measurements is ongoing, Installation foreseen on **10/10/2016**;
- 5-MCCAY07: Certification is ongoing, Installation could be on **13/10/2016**;
- 6-MCCAY08: Certification is ongoing, Installation could be on **14/10/2016**;
- 7-MCCAY09: Certification is ongoing, Installation could be on **15/10/2016;**
- 8-MCCAY10 delivery foreseen on 18/10/2016. Installation could be on **28 /10/2016;**

- 9-MCCAY02: Certification is not OK, is going to repair by contractor ;
- *10-MCCAY11, delivery foreseen on 24/10/2016, Installation could be on **03/11/2016;***
- *11-MCCAY12 and 12-MCCAY13, delivery foreseen on 24/10/2016, Installation could be on **03/11/2016.***

Follow up

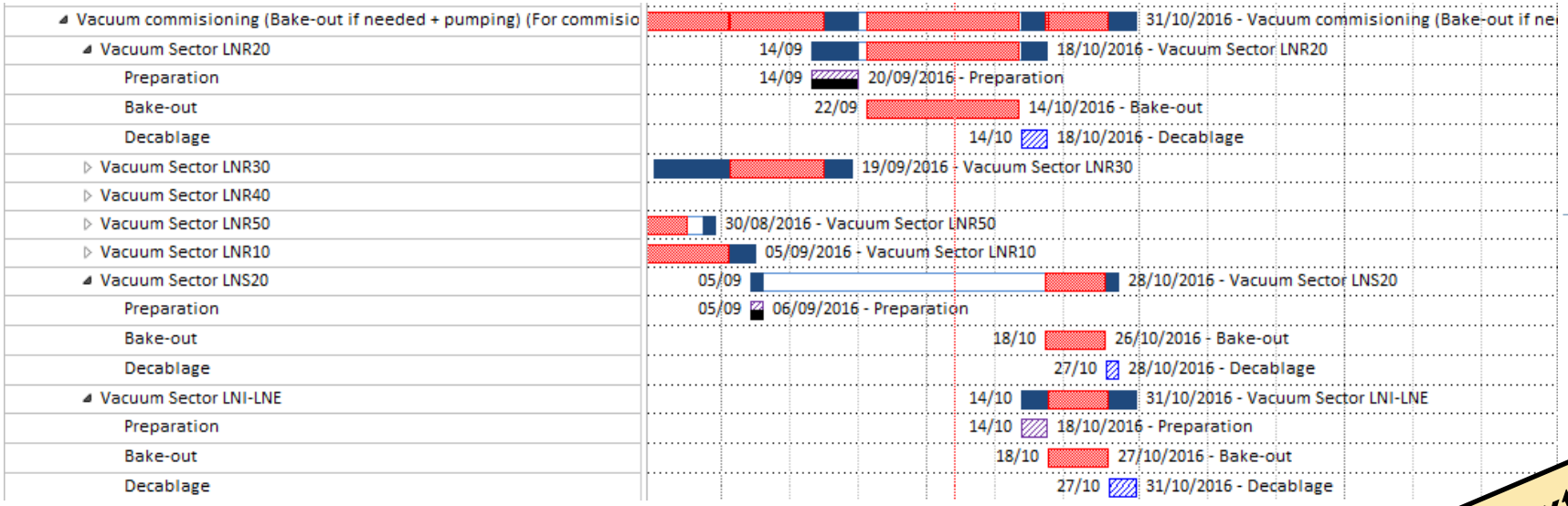
- Other equipment installation
  - Tune measurement : Installed and aligned
  - Scrapers : Installed and tested.
  - Long PU : Installed
  - BTV : Installed and tested
  - BPMs : Installed
  - Injection Kicker : Installed
  - SEMs : First SEM : Installed on LNS. 3 / 4 SEM at CERN.





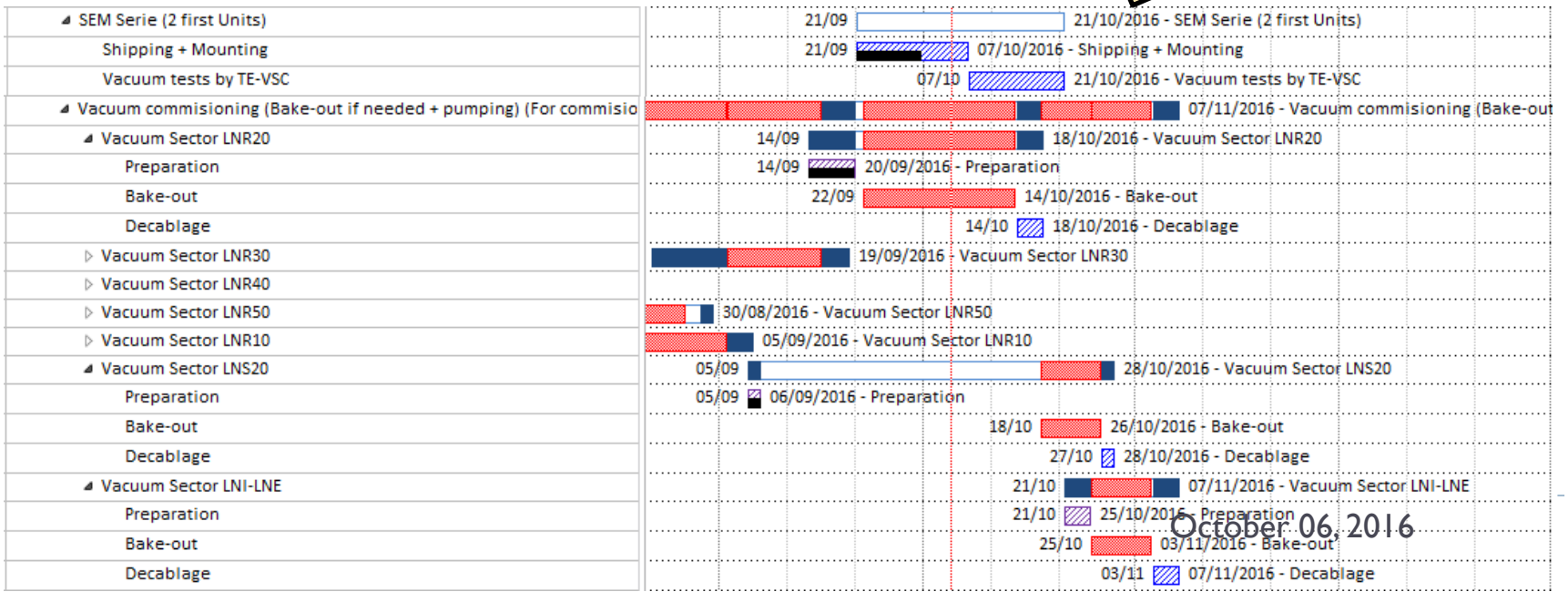
Vacuum advancement

Vacuum sector	Desc.	Bake-out	Pressure reached
LNI-LNE	Inject, from AD + Eject. To exp.	Starting date to be defined	-
LNS20	Source	Failure of one gate valve. Ordering for a new one on-going. Should start again with LNI-LNE	-
LNR10	Eject. to exp.	**Done**	**$1x10^{-12}$mbars**
LNR20	Inject. To ELENA	**On-going**	-
LNR30	Eject. to GBar	**Done**	**$2x10^{-12}$mbars**
LNR40	E-Cooler Sect	**Done**	**$1x10^{-10}$mbars**
LNR50	Scrapers + RF	**Done**	**$5x10^{-12}$mbars**



Not waiting the 2 SEM
VS
Waiting the 2 SEM

Decision expected next week



Summary of next week

- Bake-out LNR20 (TE-VSC)
- ~~Bake-out LNS (TE-VSC)~~
- "Lissage" of the machine? (EN-ACE)
- Installation of 2 corrector magnets (TE-MSC)

Hardware tests

REMINDER

- Any tests performed on the machine should follow the same procedure :
  - Notify Francois Butin and Jose Gascon by email with a description of the tests that you foresee.
  - Francois will then trigger a Visite d'Inspection Commune (VIC) if required
- Please notify to me all the tests/work that will be performed after the end of the bake-out so they will be integrated to the planning.

Hardware tests : BE-BI

- Scrapers :
  1. Tests on-going and will last until beginning of November,
- Tune measurement :
  1. Full functional tests will be done before the end of October. Duration to be confirmed.
- BPMs :
  1. Installation of the amplifier + tests will be done as soon as bake-out on LNR20 finishes. Duration : 1 week.
- BTV :
  1. Re-assembly of the BTV done as soon as bake-out on LNR20 finishes. Duration : 1/2d

Hardware tests : BE-RF

- RF Cavity :
  1. Tests could potentially last 2months. Initial tests will take place tomorrow to have a better view.
- Longitudinal pick-ups:
  1. Completion of LPUs installation (Amplifier, cabling, …). After the bake-out of LNR20. Duration : 2 weeks.
  2. Followed by LPUs tests (done in the rack and compatible with beam commissioning). Duration : 2 weeks

Hardware tests : TE-ABT (1)

- Injection kicker :
  1. Connection box installation, done after LNR20 Bake-out. Duration : 3 days
  2. Powering tests. Duration : 5 days.
- Septum :
  1. Control tests, planned this week. Duration : 1/2d
  2. Closing of the septum (With support from survey) after LNR20 Bake-out Duration : 1/2d
- ZQNA :
  1. Preparation for powering tests (IST), done after LNS and LNI-LNE bake-out. Duration : 1/2d

Hardware tests : TE-ABT (2) / TE-EPC

- Ion switch :
  1. Vacuum interlock tests (With TE-VSC and TE-ABT). Duration : 1/2d (Before or after Bake-out?)
  2. Preparation for powering tests (IST), done after LNS and LNI-LNE bake-out. Duration 1/2d
- Fast deflectors :
  1. Powering tests : Already started, will last until mid-October
- HV power converters:
  1. Preparation for powering tests (IST). Can start as soon as it is approved by HSE. Duration : 2 day

Hardware tests : BE-ICS

- EIS-b Tests BTV :
  - Done once the BTV is assembled. Duration ½ d
- EIS-b Tests Bend AD
  - Require a 2h without beam in AD. Date to be defined.
- Linking of the Access system to the EIS system
  - ½d of work that require to stop the beam in AD. Date to be defined

Hardware tests : Powering tests

- Magnets circuits commissioning
  1. Done once all the correctors are installed and the bake-out is completed. Duration : 1wk
- HV Circuits commissioning
  1. Done once all the IST are done once bake-out is completed. Duration : 1wk

Hardware tests

- Once all the previous steps are done the DSO tests will be done : Meeting foreseen next week to discuss the details of the handover from EN-EA to BE-OP.

- Note that an electrical inspection should be done for all equipment installed.

Planning proposal

Summary of next week

- Bake-out LNR20 (TE-VSC)
- ~~Bake-out LNS (TE-VSC)~~
- "Lissage" of the machine? (EN-ACE)
- Installation of 2 corrector magnets (TE-MSC)
- RF Cavity initial test (BE-RF)
- Fast deflectors powering tests (TE-ABT)
- Scrapers tests (BE-BI)
- High Voltage Power converters IST (TE-ABT)
- Septum control tests (TE-ABT)
- Ion switch interlock tests? (TE-ABT, TE-VSC)

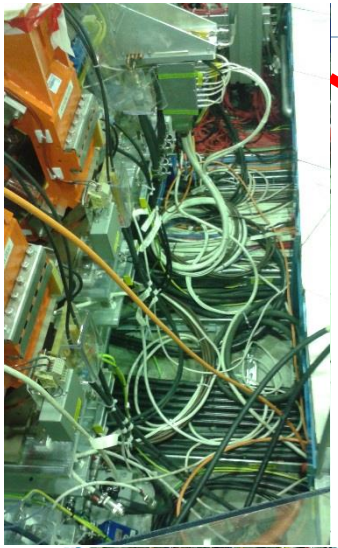
Spare slides

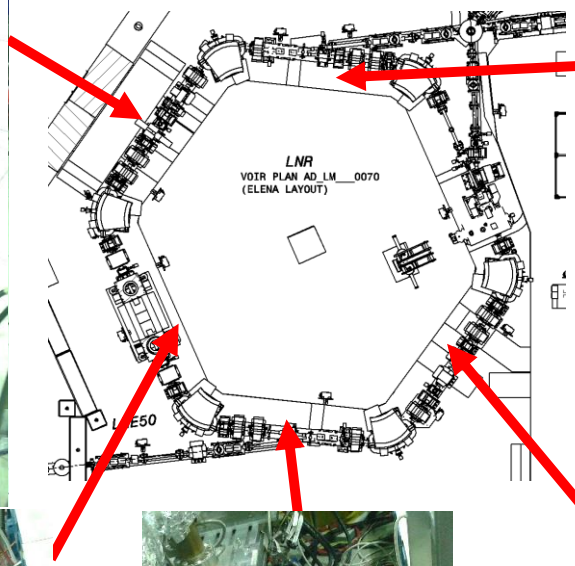
Lock-outs

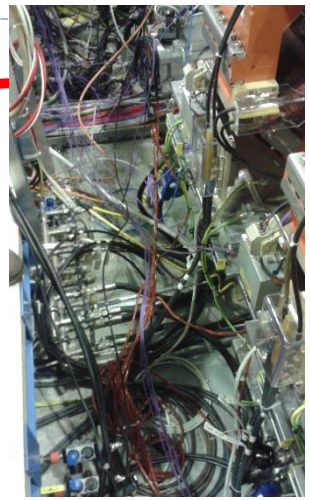
REMINDER

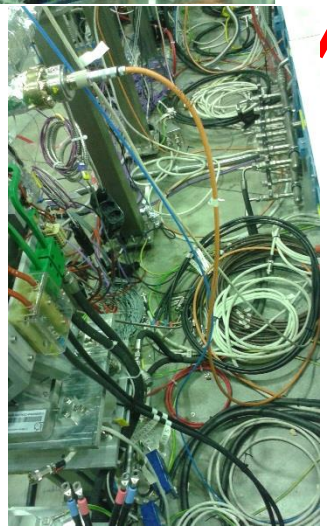
- Racks sous la responsabilité de TE-EPC :
- Liste des Racks Convertisseurs se trouvant sur la plateforme :
  - RYE01 à RYE03 Powering Ring (Responsable équipement : Kuczerowski, Nicolas)
  - RYE08 Ion Switch (Responsable équipement : Machado Christophe)
  - RYE10 à RYE13 Transfert Line HV (Responsable équipement : Machado Christophe)
  - RYE18 à RYE21 Electron Cooler Low Converters (Responsable équipement : Yves Thurel, Ludovic Charnay)
- Liste des Racks Convertisseurs se trouvant en salle de puissance :
  - RA-K302 à RA-K307 ELENA Electron Cooler (Responsable équipement : Ludovic Charnay)
  - RB300 et RB301 Convertisseurs APOLO + Spare (Responsable équipement : Christophe Mutin)
- LNI bendings: Locked-out (C.Carli) + ground straps on magnets
- La demande de consignation peut se faire via le service first line EPC 163668 ainsi qu'à Michal DUDEK ou un responsable d'équipement.

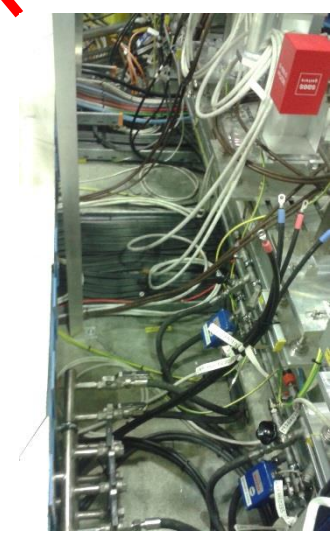
On the 07/09

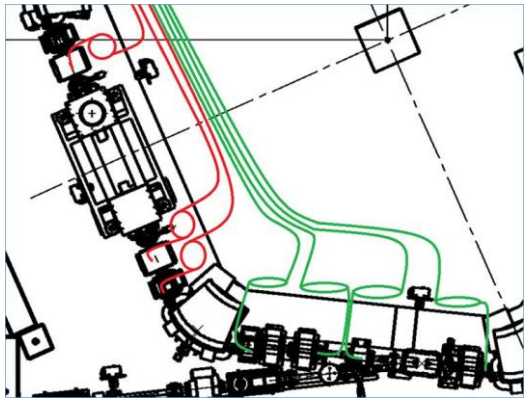






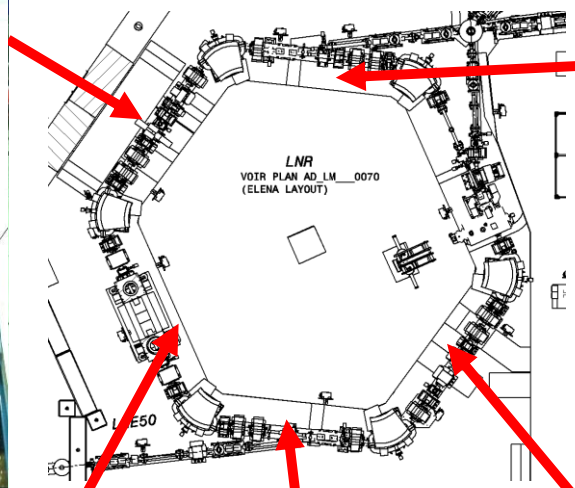


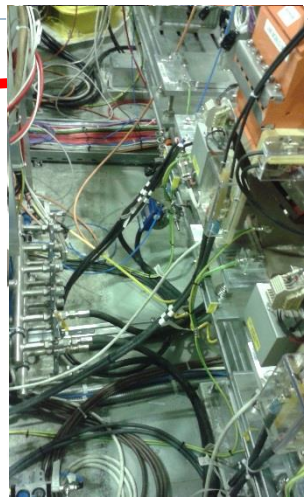


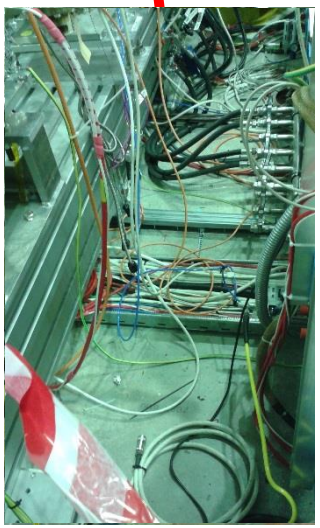


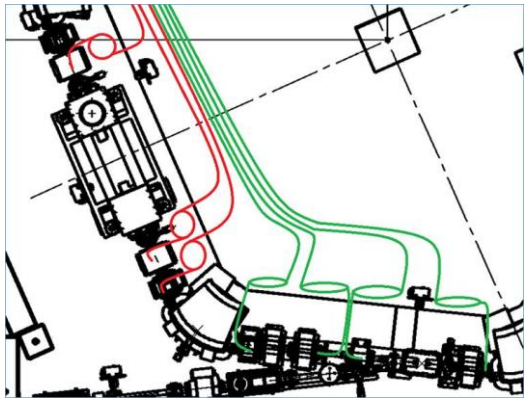
Please put your cables in the green configuration

On the 21/09









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