



**ELENA:
Commissioning Meeting**

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1 ELENA TRANSFER LINES INSTALLATION PLANNING

F. Butin presents the ELENA master planning. All the dismantling operations are done and the survey has begun. There are plans to resume H- operation in June 2019.

In the future, the plan is to start installing the ALPHA line, then ATRAP, ASACUSA, BASE, and finish with the section of lines under ATRAP.

We are on schedule so far.

2 MECHANICAL SUPPORTS STATUS

A. Kolehmainen presents the status of the support system. Everything is ready to start installing in early May. At the moment the material of the horizontal support shall be delivered:

- Columns and alignment tables : May
- Shims and HW: April

ZDS supports could be delivered directly to TE/ABT for assembly (TBC)

Vertical lines design has been approved. It will require some tooling for the installation. The line installation is required by the start of the vacuum work in July 2019.

As a conclusion, there is very little margin and the vertical lines components contracts must be followed closely.

3 VACUUM SYSTEM STATUS

A. Sinturel presents the vacuum system status. All the chambers are produced in-house. Leak detection shall be done in April. Acceptance tests are foreseen in May.

Actions to be done for the installation are:

- Budget review for 2019-2020
- Production of spare edge welded bellows
- Production of Fixed SEM grid tanks (ATRAP area)
- Production of transitions for ZDSC
- Order crates for Fast valves
- Order last mechanical parts for vacuum assembly



- Merge AD/ELENA vacuum control system to one application (Foreseen in June while commissioning period)

3 SEM grids have been installed this day. The only remaining item in LNE00 is the LPU which is expected for the 6th of May.

4 ELECTROSTATIC HW READINESS

W. Bartmann presents the electrostatic hardware readiness:

- ZQNA - quadrupole assemblies : there are 42 to install, sorting has been done based on the *claquage* voltage and installation is being organized between A. Prost and A. Sinturel.
- ZDS - static deflectors: There are 10 to install; manufacturing drawings for 2 additional LNE51 bends are ready; Production has not been launched yet, pending on approbation of PUMA project.
- ZDFA - fast deflectors : There are 6 to install.
- Installation of beam line elements by VSC, switch cubicles which will be installed on walls nearby ZDFA by ABT. Timing has to be discussed between C. Boucly and F. Butin
- The ion switch new cover has to be installed
- Possible open point: support for vertical lines: in principle sorted with what was shown by Antti.

5 SEM GRIDS

J. Cenede presents the SEM grids status. BE-BI is responsible for the assembly and the installation of the grids.

So far, during the assembly the following problems have been detected:

- Pollution on the mechanical actuators that are not suitable for the ELENA vacuum
- Leak on the sub-D50 connector
- Availability of the components
- Blocked bellows.

Actual Situation:

- 12 SEM grids have been assembled
- 2 are leaking
- 1 has a baffle issue (mechanically blocked)
- 5 SEMs will be assembled for May 2019
- 5 SEMs will be assembled for June 2019
- There are no ceramic for 24 of the SEM



- Many other parts are missing (actuators, DN200...)
- The 9 SEM installed have to be updated and checked for broken wires and SubD50 leaks.

F. Butin asks W. Bartmann to start thinking on how to spread ± 10 SEMs in order to be able to operate the machine keeping in mind that installing a SEM imply braking the vacuum. C. Carli states that it would be best if possible to equip the longest line to ALPHA first.

A. Sinturel wonders about the material used to solder the wires. He reminds that tin can outgas above 100 degrees.

6 AOB

B. Lefort reminds that ELENA machine will be restarted in June and all the system have to be ready.