

Minutes
ATLAS Solenoid Meeting
KEK, 2003-10-28

Attendance:

Y. Doi, M. Kawai, T. Kondo, Y. Kondo, S. Mizumaki, R. Ruber, A. Yamamoto.

The meeting consisted of two parts:

1. detailed discussions on instrumentation and installation work between M. Kawai, S. Mizumaki and R. Ruber
2. general discussion on the schedule and a report of the survey with presence of all participants.

Part 1

1. Check of instrumentation wiring
 - Re-check some pins as suggested by Mizumaki (HALC+, HALC-, HWC and pickup coil)
 - Add cables at extension chimney feed through and new section switch (SS7) for broken connection (PC103-I, PC1189-I, HW105-I, CG105-I, CG1181-I, CG001-I and CG005-I)
 - (Note) There is no protection resistance for voltage taps in extension chimney. External protection resistors will be installed like for the chimney test (to be prepared by CERN)
2. Potentiometer at END-A
 - Change cables from triangle support strain gauge to potentiometer at END-C (SS1051L => PTNZ181, SS1051U => PTNZ091, SS2851L => PTNZ271, SS2851U => PTNZ001)
 - Add cables and 22-pin Burndy connector at extension chimney feed through and new section switch (SS7) in V.U for above strain gauges
 - For installation in the underground cavern (ATLAS pit), it will be tried to add cables in the main chimney and a Burndy connector + feedthrough at the bottom of the control dewar to chimney connection.
3. To check list etc.
Following updated Excel files are sent to Kawai-san and Ruber-san
 - Check List of sensors
 - To check List
 - SS and TB List
4. To Do List for instruments
 - Cables (SUS and Cu) for additional cables in extension chimney must be shipped from Toshiba (each 100m)

- Burndy 22-pin connector must be prepared by KEK
- CERN will provide and install section switch (SS7) in the valve unit as well as the external cabling from chimney to valve unit.

5. Feedthrough

- Duct

The holes in the top ring of the feedthrough duct must be enlarged to accommodate G10 spacers for electrical insulation.

- Present hole diameter 15mm for M12 screw
- Enlarge to 18mm diameter hole, to be done by CERN
- Toshiba will prepare G10 spacers (17.5mm diameter)

- Radiation Shield

Toshiba will prepare drawings of the new feedthrough radiation shield. Shield will be manufactured at CERN.

- Bellows cover

CERN will manufacture a cover for the feedthrough bellows according to existing Toshiba drawing

- CERN will manufacture bus-line conduits

- 2x for bus-line joint
- 1x for normal bus-line

drawings will be provided by Toshiba

6. Bulkhead

- Re-alignment of the 4 cooling tubes at the coil exit is required before starting the bulkhead installation work.

- X-ray test have to be done on the hand welding connections of the 4 cooling tube at the coil exit.

- In case the X-ray tests are negative, we must cut the tubes at this location. This might cause it to be necessary to perform the bulkhead orbital welding at the lower part of the bulkhead, i.e. adds another 45 degrees angle.

- CERN workshop should find welding parameters for 45 + 11.25degr. position.



7. Question and request

Q1. Allowed movement of bellows between chimney and cryostat in pit (structure: +/-15mm)

R1. Drawing of electrode ring in the orbital welding machine

Part 2

1. The alignment survey of the solenoid coil with respect to the IWV was discussed. Detailed data is available in the report

<https://edms.cern.ch/document/408020>

The data of the potentiometer measurements will be checked by R. Ruber and included in a summary report to be made.

2. A summary was given of the discussions in Part 1 regarding the change in wiring for the potentiometers and the addition of extra wiring for the strain gauge read-out.
3. Report was given by S. Mizumaki on the survey and instrumentation check performed at CERN during 6 – 17 October.
4. The installation schedule was discussed. The closure of the cold vessel is delayed, and as a consequence we will not be able to start the work until the beginning of January 2004. A final confirmation of the start date, depending on the progress in the cold vessel closure and welding, should be available by the end of November.

Start date of installation work: 18 January 2004.

Required time: 6 weeks

Preliminary schedule and list of visitors:

Work Calendar

Week	Calendar Week	Date	Work Description	Visitors
	0	3	12-01-2004 set solenoid on beam	none
	1	4	19-01-2004 preparations + insertion	Kawai Makida Mizumaki
	2	5	26-01-2004	Kawai Makida Mizumaki
	3	6	02-02-2004 bulkhead work	Kawai Makida Mizumaki
	4	7	09-02-2004 chimney work	Kawai Kondo Mizumaki
	5	8	16-02-2004	Kawai Kondo Mizumaki
	6	9	23-02-2004 shield, tests, finishing	Kawai Kondo Mizumaki
	7	10	01-03-2004 pumping cryostat ...	Kondo
	8	11	08-03-2004	Kondo
	9	12	15-03-2004 start cooldown	Doi Kondo
	10	13	22-03-2004	Doi
	11	14	29-03-2004	Doi
	12	15	05-04-2004	Doi
	13	16	12-04-2004 1st excitation	Doi Makida Mizumaki
	14	17	19-04-2004	Doi Makida Mizumaki
	15	18	26-04-2004	Doi
	16	19	03-05-2004	Doi
	17	20	10-05-2004	Doi

5. During solenoid test (excitation) Kawai-san and Kondo-san will be present. Also either Makida-san or Yamamoto-san will be present.
6. The leak test procedure has to be discussed with the LAr group.
 - Internal pressure test ok?
 - Required to do external pumping of cryostat?
this might give a large background of GHe in the superinsulation etc.
7. The use of scaffolding and the closing time of the warm flange should be discussed with the LAr group.
8. It was agreed that the solenoid can be set on the insertion stand before the arrival of the KEK and Toshiba teams at CERN. However, the end flange shall not be removed until after their arrival.
9. Roger will check the availability at CERN of a fast data logger/acquisition system for voltage tap monitoring. This instead of the 10 channel multimeter setup used during the chimney tests.