

Summary of PCMAG-LHe transfer tube modification phone-meeting on Jan. 28, 2008:

Attendants: Klaus Dehmelt, Ikematsu San, Makida San, Matsuda San

The discussion aimed to clarify outstanding issues concerning the modification of the LHe transfer tube between the LHe/N dewars and the inlet of PCMAG.

Makida San gave details about a short transfer tube, which can be equipped with a cold valve in order to flush the tube from the PCMAG's side and to control the thermal oscillations. The tube is L shaped and has a length of about 20 cm respectively 30 cm for each arm. The cold valve is implemented as an extension after the L-connection. The shorter arm is to be inserted into the PCMAG and the longer arm with a bayonet joint into the Nasser tube (the existing LHe transfer tube). The diameter of the tube is about 20 mm, the same as for the Nasser tube. The price for the L-shaped tube is expected to be in the order of 3k Euros. The delivery time of this tube is expected to be 2 months. Regarding safety issues concerning the valve at the L-shaped tube it was made clear that there exists a safety relief valve at the dewars which allows the safe operation of the cold valve along the LHe-transfer line.

To summarize, the L-shaped tube will serve as an extended insert of the PCMAG, equipped with a cold valve and will be not moved anymore once it has been fixed into the PCMAG. All necessary connection/disconnection actions with the dewars will be performed at the other side of this tube.

It was discussed that Makida San will provide the L-shaped tube and that DESY will take over the bill (maybe even directly with the company Tori ?) within 5k Euros, including possible convenience devices.

Makida San will be visiting DESY in mid February, if his schedule will allow this. Then he will be settling down last open questions.

NB from KD: I discussed with Mr. von Schroeder from the DESY gas-group about the possibility to control the flow of the LHe out of the dewar. The

idea is to control the pressure in the dewar with gaseous He and a needle flowmeter and thus control the flow of the LHe into and out of the PCMAG. This is necessary in order to avoid He losses due to the too small diameter of the exhaust pipes. According to Mr. von Schroeder's experience it might be difficult to do so, but we will perform tests for that. If it will fail, Mr. von Schroeder provided another, simple idea. A plug within the transfer tube could be implemented which has to be drilled out with a small hole according to the flow we will need (10-15 l/h).