HADES Superconducting Magnet

Status Report 28.08.1995

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The following summarizes shortly the status of the superconducting HADES magnet system:

1 The complete magnet including a stand-alone monitoring and control system will be delivered by a company. The powersupply and the interface to the cryogenic system are excluded from the tender since the boundary conditions are currently not sufficiently well defined. However, the companies can optionally add cost estimates for the powersupply and the cryogenic interface. The tender is based on information provided by a design study performed by Oxford Instruments. In this design study the feasibility of the proposed concept was investigated. The specification of the magnet can be found in the WWW: http://dslep01.gsi.de/~hades/magnet/magnet_notes.html.

1.1 On June 8th the tender was sent to 12 companies, the deadline for an offer is August 31. 1995. Several companies were obviously interested in manufacturing the magnet and asked for additional technical information which was sent to them via FAX.

1.2 Two specialists from CERN (Mr. Lazeyras) and DESY (Mr. Wolff), respectively, were asked to guide GSI during the decision process. At GSI Mr. Schüll will advise us regarding special questions related to superconductivity. He is in charge of the operation of the FOPI superconducting solenoid.

1.3 A summary of the offers will be prepared immediately after the tender deadline. During the HADES technical board meeting on Sept. 6th and the executive board meeting on Sept. 8th this summary should be discussed.

2 An about 10 years old used cryo system was obtained from BESSY, Berlin. It is currently disassembled and was not tested after shipping to GSI. The following steps are needed to get an operational cryosystem for the magnet:

2.1 Assembly and testing of the existing liquefier.

2.2 Modification of the liquefier to a refrigerator mode matching the needs of the magnet. This point depends strongly on the type of cooling used for the magnet (forced flow liquid He or thermosyphon cooling.

2.3 Installation of a new control system fitting to the magnet requirements.

3 For the installation and afterwards the operation of the cryosystem and the magnet additional manpower is needed at GSI. Currently, no manpower is available to perform step 2.1 - 2.3. Furthermore, locations of the power supply and the cryo system must be defined withi the HADES experimental area fitting to the boundary conditions given by both, the magnet and the cave and beamline.

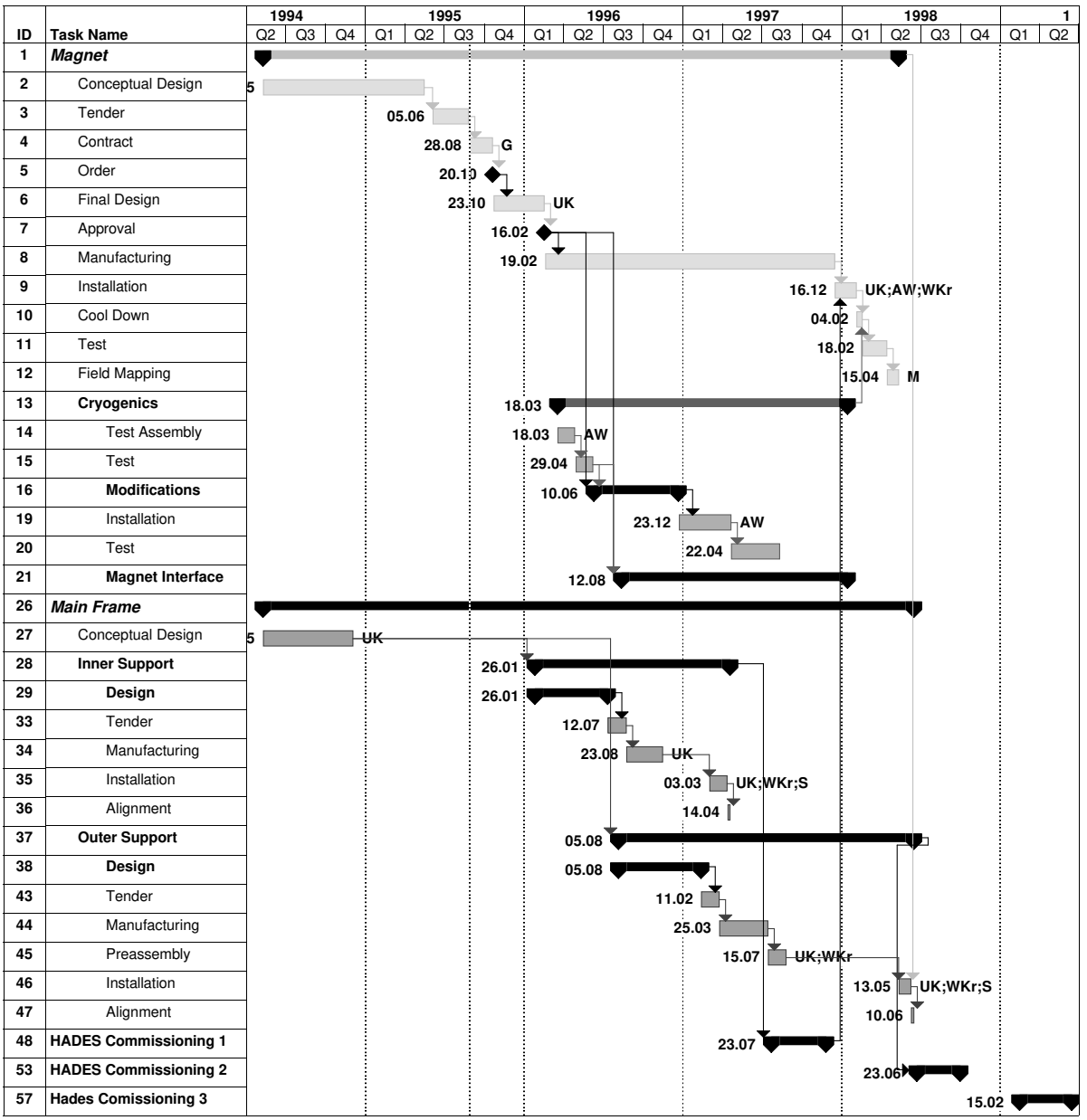

Figure 1: tentative timeschedule for the manufacturing and installation of the superconducting HADES Magnet and the cryo system. A possible scheme for the installation of the HADES detector main frame and HADES comissioning phases are shown, too.

A preliminary timetable is shown in Figure 1. It is based on a timeschedule estimate provided by a design study performed by Oxford Instruments more than a year ago. In Figure 1 a possible scheme for the installation of the HADES detector mainframe and for three HADES comissioning phases is indicated, too. The time scale also depends on the timescale for the installation of the HADES cave and beamline which is currently evaluated at GSI.