Preamble

(a) Early in the year 2000, CERN launched a wide-ranging review, chaired by S. Bethke (MPI Munich), of the status and plans for the computing for the Experiments at CERN's Large Hadron Collider (LHC). This included a survey of the anticipated needs of the Experiments. The Steering Group of the review submitted its final report to the Research Board via the LHC Committee (CERN/LHCC/2001-004) on 22 February 2001. In the knowledge of this, CERN Council, at its session of 20 September 2001, approved the LHC Computing Grid ("LCG") project and in particular its Phase 1 of technology development and tests leading to a production prototype (CERN/2379/Rev.). Council also took note of the plans at that time for the deployment and exploitation phase of the project (Phase 2).

(b) Before proceeding to Phase 2, the LCG project will undergo a technical, financial, and manpower review (CERN/DG/RB 95-234) by the LHCC based on a Technical Design Report. This process will be completed during 2005.

(c) The purpose of the Worldwide LHC Computing Grid is to provide the computing resources needed to process and analyse the data gathered by the LHC Experiments. The LCG project, aided by the Experiments themselves, is assembling at multiple inter-networked computer centres the main offline data-storage and computing resources needed by the Experiments and operating these resources in a shared grid-like manner. One of the project's most important goals is to provide common software for this task and to implement a uniform means of accessing resources. It has been found useful to classify the computer centres functionally in Tiers. Tier0 is at CERN. It receives the raw and other data from the Experiments' online computing farms and records them on permanent mass storage. It also performs a first-pass reconstruction of the data. The raw and reconstructed data are distributed to the Tier1 Centres. Tier1 Centres provide a distributed permanent back-up of the raw data, permanent storage and management of data needed during the analysis process, and offer a grid-enabled data service. They also perform data-intensive analysis and re-processing, and may undertake national or regional support tasks, as well as contribute to Grid Operations Services. Tier2 Centres provide well-managed, grid-enabled disk storage and concentrate on tasks such as simulation, end-user analysis and high-performance parallel analysis. In addition, CERN provides an Analysis Facility that has the functionality of a combined Tier1 and Tier2 Centre, except that it does not offer permanent storage of back-up copies of raw data.

(d) Agreement to collaborate on the deployment and exploitation of the Worldwide LHC Computing Grid is made through the conclusion of this Memorandum of Understanding ("MoU"), which defines the Worldwide LHC Computing Grid Collaboration and its objectives, and the rights and obligations of the Collaboration Members. The needs of the Experiments, on which the pledged Computing Resource Levels (Annex 6) are based, have been reviewed in January/February 2005 by an expert committee appointed by the LHCC and chaired by P. McBride (FNAL) (CERN/LHCC-2005-006).