Memorandum of Understanding
between
The International Linear Collider - Global Design Effort
and
the Lawrence Livermore National Laboratory

November 23, 2005

1. Introduction

1.1 *General Description*

The DOE High Energy Physics Advisory Panel (HEPAP) has stated the need for a 500 GeV electron-positron linear collider to address fundamental particle physics questions at the TeV energy scale, and recommended that such a facility be the next major project for the U.S. High Energy Physics program. The International Linear Collider (ILC) is envisioned to be a globally supported project to construct such a linear collider to address this mission need. Research and Development (R&D) for the ILC is being carried out by an international collaboration of laboratories and universities in three regions of the world (the Americas, Asia, and Europe) under the direction of an international organization, the Global Design Effort (GDE). The GDE is a virtual organization with members drawn from existing laboratories and universities. Overall co-ordination of the technical activities within the Americas region is the responsibility of the GDE-Americas Regional Director.

This Memorandum of Understanding (MoU) establishes a collaboration between the University of California who operates and manages Lawrence Livermore National Laboratory (LLNL) and the GDE, hereinafter referred to as the "Parties", to work jointly on the technical design and R&D needed for the ILC. This agreement between the Parties is made in the context of existing national and international collaborations, does not alter those collaborations, and is not exclusive; other laboratories or universities may join at any time under similar agreements.

This MoU is a collaborative agreement between scientists and does not constitute a legal contractual obligation on the part of either of the Parties.

All work performed by LLNL as part of the ILC Collaboration will be coordinated by the LLNL ILC Program Leader. Definition of the scope of work and planning of specific work to be done at LLNL are the responsibilities of the GDE-Americas Regional Director and the LLNL ILC Program Leader. The scope of work done at LLNL will be documented in this MoU and future Amendments to it. Detailed work packages to be completed in a specific time frame will be described separately in

Addenda to this MoU.

1.2 *Objective*

The objective of this MOU is to document the terms of agreement between GDE and LLNL under which work in support of the ILC is to be performed at LLNL.

1.3 *Scope*

This MoU covers work to be performed at LLNL during the R&D and technical design phase of the project. The scope of work to be done by LLNL may include elements of conceptual design and modeling, engineering, procurement, fabrication and testing of prototypes, preparation of documentation, and participation in review and management processes. This agreement does not specify the time of performance of tasks in any particular category, nor does it preclude the addition of tasks by amendment to this MoU.

2. General Provisions

2.1 *Terms and Conditions*

Since the University of California operates and manages LLNL under contract number W-7405-Eng-48 for the U.S. Department of Energy, all work performed by LLNL in support of the ILC will be consistent with the terms and conditions of this contract.

2.2 *Funding*

No funds are anticipated to be transferred between the Parties for the work contemplated under this MoU. Each Party will fund its own activities agreed to in the annual addendums. ,If funds are to be transferred between the Parties or from a third party, the mechanism for the provision of funds will be determined on a case-by-case basis and in conformance with the existing funding mechanisms at LLNL and GDE.

2.3 *Cost Recovery*

It is understood that LLNL is operated as a full cost recovery facility. All costs of work done at LLNL on the ILC are to be covered by the funds described in Section 2.2 above, and the LLNL ILC Program Leader will be responsible for management of these funds. The GDE-Americas Regional Director, in consultation with the LLNL ILC Program Leader, may request at any time that specific work on the ILC at LLNL be

redirected or terminated. LLNL will respond to such requests as quickly as possible within DOE and LLNL personnel management guidelines.

2.4 *Reporting*

LLNL will submit to the GDE-Americas Regional Office semiannual progress reports of the work done at LLNL. These reports will contain descriptions of technical progress, statements of goals for the next reporting period, and indications of long-range plans for all work being done at LLNL. These reports will be submitted at the midpoint and close of the Fiscal Year, and will become part of technical and budget planning for the GDE.

LLNL will submit to the GDE-Americas Regional Office a quarterly statement of costs and commitments incurred for all work being done using the funds described in Section 2.2 above. These reports will become part of the technical and budget planning for the GDE.

2.5 *Ownership of Equipment*

All equipment purchased or fabricated using DOE funds and purchased at LLNL will be the property of DOE/LLNL and shall be subject to the LLNL property management system. Moreover, all such equipment for exclusive use in the ILC R&D effort or incorporated into ILC prototypes will remain available to the GDE until it is deemed by the GDE-Americas Regional Office that such equipment is no longer needed.

All new equipment purchased by LLNL using DOE funds which is jointly shared by the ILC R&D effort and other programs of the LLNL Laboratory will be controlled by LLNL Laboratory in cooperation with the GDE-Americas Regional Office.

All new equipment which is supplied to laboratories outside the Americas region for ILC R&D efforts will remain available to the GDE Regional Office in that region until it is deemed by the GDE that such equipment is no longer needed.

All new equipment purchased by funds coming from third parties will be governed by the respective funding documents.

2.6 *Intellectual Property*

Intellectual property invented solely by one Party will be owned by that inventing party. Intellectual property invented jointly will be owned jointly by the inventing parties. "Intellectual property" includes but is not limited to inventions, technical data, and software.

2.7 ***Scientific Publication***

All work covered by this MoU will be unclassified. Publications will be collaborative, although either Party has the right to publish information in part or in whole, independent of the other, subject to informing the other Parties in writing of their intention to do so. Consent to publish may be denied in writing by a Party if proprietary information is involved. Disputes will be settled through mutual cooperation befitting the scientific goals of the project.

All publications and all intellectual property developed under this collaboration are subject to LLNL's procedures and LLNL contractor's contract W-7405-Eng-48 with DOE. Note that Department of Energy contracts require that all publications receive prior copyright and invention review. All publications are required to indicate the contribution made by each of the Parties.

2.8 ***Amendments***

This MoU may be modified or amended from time to time by written agreement of both Parties.

2.9 ***Public Information Coordination***

Subject to applicable laws and regulations, decisions on the disclosure of information to the public regarding the ILC program shall be made by the GDE-Americas Regional Director following consultation with the LLNL ILC Program Leader when appropriate.

3. Plan of Work

Under this Memorandum of Understanding, LLNL will carry out activities in the main program areas listed in Section 1.3. Particular activities and deliverables will be specified and agreed upon by the LLNL ILC Program Leader and the GDE-Americas Regional Director and documented in Addenda to this MOU.

4. Execution

4.1 *Effective Date*

This MOU shall become effective upon the latter date of signature of the Parties. It shall remain in effect until superseded or five years from the effective date, whichever comes first.

4.2 *Approvals*

The following concur in the terms of this Memorandum of Understanding:

_____	_____
Dr Barry Barish, Director, GDE	Dr. Cherry Murray, Deputy Director for Science and Technology, LLNL
_____	_____
Date	Date
_____	_____
Dr Gerry Dugan, GDE-Americas Regional Director	Dr. William Goldstein, Associate Laboratory Director, Physics and Advanced Technologies Directorate
	_____
	Dr. Jeffrey Gronberg, LLNL ILC Program Leader