ADDENDUM

to

THE MEMORANDUM OF UNDERSTANDING FOR A MULTI-LATERAL COLLABORATION

between

THE INSTITUTIONS AND FUNDING AGENCIES OF THE CTF3 COLLABORATION

concerning

THE CONTRIBUTION OF

THE COMMISSARIAT À L'ENERGIE ATOMIQUE, DIRECTION DES SCIENCES DE LA MATIÈRE (CEA)

TO THE CTF3 COLLABORATION

November 30th, 2005

CONSIDERING:

The Memorandum of Understanding ("the MoU") defining the framework applicable to the construction of a 3rd generation Compact Linear Collider Test Facility (CTF3) and the performance of Experiments to demonstrate the feasibility of key issues of the CLIC scheme;

That Article 1.2 of the MoU envisages Addenda defining each contribution pledged to the CTF3 Collaboration,

THE COMMISSARIAT À L'ENERGIE ATOMIQUE, DIRECTION DES SCIENCES DE LA MATIÈRE (CEA) , in its capacity as Member of the CTF3 Collaboration, **HEREWITH AGREES** to make the following contributions:

Design, procurement and commissioning of the probe beam linac

The manpower for the above mentioned activities will amount to a total of 30 man*years for CEA.

The components will be shipped and mounted at CERN in 2007, after the completion of the CLEX building. The commissionning will start at the beginning of 2008.

The different sub-systems as well as the charges and responsabilities are defined hereunder.

1. *Photo-injector:* Procurement of the laser system, which will be based on unused light pulses of the Drive Beam laser system, the RF power which will be derived from the RF source feeding one accelerating section. Estimated cost 342 kCHF

   The in-situ preparation chamber will be provided by CERN and the photocathodes will be prepared by CERN.

2. *Accelerating sections:* The three LIL sections, required for bunch compression and acceleration will be supplied by CERN, including girders, solenoids and their power supplies, RF couplers and loads.

3. *RF power sources:* Procurement of one RF power source, including the modulator and the RF pulse compression system. Estimated cost 791 kCHF

   The 45 MW peak power klystron, a pair of LIPS storage cavities and the RF network required for the LIL sections will be supplied by CERN.

4. *Low Level RF:* Assembling and integration of the Low Level RF for the three accelerating LIL sections and RF gun. The hardware and individual components will be supplied by CERN.

5. *Beam transport:* Procurement of the focalisation magnets, spectrometer dipole, beam steerers. Estimated cost 304 kCHF

   The power supplies will be provided by CERN.

6. *Instrumentation:* Procurement of the beam position monitors and beam profile monitors required for emittance, energy spread and bunch length measurements. Estimated cost 420 kCHF

   The RF deflector necessary for bunch length measurement will be provided by CERN.

7. *Vacuum chamber:* Procurement of the vacuum chamber. Estimated cost 93 kCHF

   The sector valves, ion pumps, pumping groups will be provided by CERN.

8. *Cooling system:* The cooling loops necessary for the accelerating sections, RF power sources and magnets will be provided by CERN.

9. *Control system:* Procurement of the software of the control system. CERN standards will be used when existing.
   The hardware and VME cards will be provided by CERN.

The total estimated cost is 1950 kCHF.

The alignment of the various components, as well as the cabling required for the linking of the different systems will be provided by CERN.
The existing documents, in particular the specifications and detailed drawings of components developed for the Drive Beam of CTF3 (diagnostics, RF power and low-level RF, etc) will be conveyed by CERN at the request of CEA.

This Addendum shall form an integral part of the MoU.

P.O. G. FIOLI

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