

INTERNATIONAL CO-OPERATION AGREEMENT

CONCERNING

**SCIENTIFIC AND TECHNICAL CO-OPERATION
ON LARGE HADRON COLLIDER ACTIVITIES**

ACCELERATOR PROTOCOL II

BETWEEN

**THE DEPARTMENT OF ENERGY OF THE UNITED STATES
OF AMERICA**

AND

THE EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

2014

RDV

The Department of Energy of the United States of America ("DOE"), represented by

and

The European Organization for Nuclear Research ("CERN"), an intergovernmental organization having its seat at Geneva, Switzerland, represented by Rolf-Dieter Heuer, Director-General,

(hereafter collectively "the Parties"):

CONSIDERING

That the Parties collaborated to their mutual benefit under the International Co-Operation Agreement Concerning Scientific and Technical Co-Operation on Large Hadron Collider Activities signed 19 December 1997;

That DOE has successfully participated in construction of the Large Hadron Collider (LHC), and that United States universities and other organizations play a major role in the ongoing exploitation of the LHC;

That the commissioning of the LHC is to be completed through its consolidation to its nominal energy and performance;

That the excellent LHC results obtained so far strongly support revising the LHC performance reach and launching a design study for increasing the nominal luminosity by a factor of ten;

That key technologies for a design study are being developed in the framework of the United States' LHC Accelerator Research Program; and

That it is in the mutual interest of the Parties to continue and extend their co-operation on the LHC accelerator consolidation plan and LHC upgrade studies, under this Accelerator Protocol II (hereinafter "Protocol"),

HAVE AGREED AS FOLLOWS:

Article I

Purpose

- 1.1 The purpose of this Protocol is to create a framework for DOE's contribution, through its national laboratories and other participants, to the implementation of the LHC accelerator consolidation plan to reach its nominal energy and performance, and to the LHC upgrade studies. These activities, which will complete the LHC commissioning process, all aim at increasing significantly the physics reach of the LHC to the benefit of the LHC experiments, including that of the large United States experimental physics community engaged at the LHC. This Protocol does not constitute or imply any commitment by either Party to make available any resources or enter into any specific collaboration.
- 1.2 This Protocol is subject to and governed by the International Co-Operation Agreement between the European Organization for Nuclear Research (CERN) and the Department of Energy of the United States of America and the National Science Foundation of the United States of America Concerning Scientific and Technical Co-Operation on Large Hadron Collider Activities signed 8 December 1997 (hereinafter the "Co-Operation Agreement"), except as provided in Article VII of this Protocol.

Article II

Scope

- 2.1 DOE's contribution to the activities conducted under this Protocol may be in any form as may be jointly agreed by the Parties, and may in particular include intellectual participation in:

- (a) Accelerator science studies in view of reaching the nominal LHC performance and participation to the related machine studies;
 - (b) Accelerator science studies and research and development in view of the planned luminosity LHC upgrade. This covers accelerator physics studies and simulation, high-field magnet, crab cavity and collimation activities, both from a system and technology point of view;
 - (c) Accelerator science studies in view of assessing the feasibility of an LHC energy upgrade;
 - (d) Accelerator science studies on the LHC injector complex, in view of meeting the requirements of the LHC main ring upgrade; and
 - (e) Any other accelerator science studies relevant to the LHC.
- 2.2 DOE's contribution shall be defined on a case-by-case basis through such implementing arrangements as may be concluded by DOE, or through its national laboratories and other participants, and CERN. Such arrangements shall address goals, management structures, deliverables, resources, timelines and any other aspect of the contribution and shall be subject to this Protocol.
- 2.3 In addition to the intellectual contribution envisaged under paragraph 2.1, if deemed appropriate by the Parties, DOE may decide to extend its collaboration in LHC consolidation and upgrade work through the provision of its hardware and similar contributions. These, too, shall be addressed in implementing arrangements under this Protocol.

Article III

Management Structures

Any work by DOE or its participants under this Protocol will normally be accomplished through nationally coordinated programs managed by the

DOE. In addition to continuous contact between the responsible technical personnel of the Parties, DOE shall designate its representatives on formal governance panels for the CERN projects concerned. These arrangements are without prejudice to the operation of the Co-operation Committee created under Article XV of the Co-Operation Agreement.

Article IV

Amendment Procedure

DOE and CERN may amend this Protocol at any time by mutual written consent, so long as the Co-Operation Agreement remains in force.

Article V

Transfer of Goods and Technical Data

The Parties are obligated to transfer only those technical data (including software) and goods necessary to fulfill their respective responsibilities under this Protocol, in accordance with the following provisions, notwithstanding any other provisions of this Protocol:

- 5.1 Each Party's activities under this Protocol will be carried out in accordance with the laws, rules and regulations to which it is subject, including any applicable laws and regulations pertaining to export control.
- 5.2 The transfer of technical data for the purpose of discharging the Parties' responsibilities with regard to interface, integration, and safety will normally be made without restriction, except as required by paragraph 5.3 of this Article.

5.3 All transfers of goods and proprietary or export-controlled technical data are subject to the following provisions.

- (a) In the event a Party finds it necessary to protect such goods or data against unauthorized disclosure, such goods will be specifically identified and such data will be marked.
- (b) The identification of such goods and the marking of such data will indicate that the goods and data will be used by the personnel of the receiving Party, and its national laboratories and other participants, only for the purposes of this Protocol, and that such goods and data will not be transferred or disclosed or to any other entity without the prior written permission of the furnishing Party.
- (c) The receiving Party will abide by the terms of the notice and protect any such goods and data from unauthorized use, transfer and disclosure, in accordance with applicable laws, regulations, and administrative practices.
- (d) The Parties will cause their related entities to be bound by the provisions of this Article through contractual mechanisms or equivalent measures. It is understood that CERN does not have any related entities.

5.4 All goods exchanged in the performance of this Protocol will be used by the receiving Party exclusively for the purposes of the Protocol. Upon completion of the activities under this Protocol, the receiving Party will return or otherwise dispose of all goods and marked proprietary or export-controlled technical data provided under this Protocol, as directed by the furnishing Party.

Article VI

Duration

- 6.1 This Protocol shall enter into force upon signature by the Parties, and save as the Parties may agree otherwise, shall remain in force as long as the Co-Operation Agreement remains in force, subject to paragraph 6.2. Notwithstanding the termination of this Protocol, the provisions of this Protocol shall survive to the extent necessary to give effect to any rights or obligations that have accrued prior to the effective date of termination.
- 6.2 The Parties may terminate this Protocol at any time by their mutual consent in writing. Alternatively, a Party that wishes to terminate its participation in this Protocol shall provide at least 90 days advance written notice thereof to the other Party.

Article VII

Intellectual Property

Notwithstanding Article XIII of the Co-Operation Agreement, the following terms shall apply to activities under this Protocol.

I. General Obligation

The Parties shall ensure adequate and effective protection of intellectual property created or furnished under this Protocol and relevant implementing arrangements. Rights to such intellectual property shall be allocated as provided in this Annex.

II. Scope

- A. This Annex is applicable to all cooperative activities undertaken pursuant to this Protocol, except as otherwise specifically agreed by the Parties or their designees.

- B. For purposes of this Protocol, "intellectual property" shall mean the subject matter listed in Article 2 of the Convention Establishing the World Intellectual Property Organization, done at Stockholm, July 14, 1967 and may include other subject matter as agreed by the Parties.
- C. Each Party shall ensure, through contracts or other legal means with its own participants, if necessary, that the other Party can obtain the rights to intellectual property allocated in accordance with this Annex. This Annex does not otherwise alter or prejudice the allocation between a Party and individuals subject to its jurisdiction, which shall be determined by the laws, rules, regulations and practices applicable to that Party.
- D. Except as otherwise provided in this Protocol, disputes concerning intellectual property arising under this Protocol shall be resolved through discussions between the concerned participating institutions, or, if necessary, the Parties or their designees. Upon mutual agreement of the Parties, a dispute shall be submitted to an arbitral tribunal for binding arbitration in accordance with the applicable rules of international law. Unless the Parties or their designees agree otherwise in writing, the arbitration rules of UNCITRAL shall govern.
- E. Termination or expiration of this Protocol shall not affect rights or obligations under this Annex.

III. Allocation of Rights

- A. Each Party shall be entitled to a non-exclusive, irrevocable, royalty-free license in all countries to translate, reproduce, and publicly distribute scientific and technical journal articles, reports, and books directly arising from cooperation under this Protocol. All publicly distributed copies of a copyrighted work prepared under this provision shall indicate the names of the authors of the work unless an author explicitly declines to be named.

B. Rights to all forms of intellectual property, other than those rights described in paragraph IIIA above, shall be allocated as follows:

(1) Any rights, awards, bonuses and royalties in respect of visiting researchers are subject to the rules, regulations and policies of the host institution.

(2) (a) Any intellectual property created by persons employed or sponsored by one Party under cooperative activities other than those covered by paragraph III. (B)(1) shall be owned by that Party. Intellectual property created by persons employed or sponsored by both Parties shall be jointly owned by the Parties. The grant of awards, bonuses and royalties to creators is subject to the rules, regulations and policies of the institution employing or sponsoring that person.

(b) Unless otherwise agreed in an implementing or other arrangement, each Party shall have within the territory of (i) its State (DOE) or (ii) CERN Member States and Associate Member States, as applicable, a right to exploit or license intellectual property created in the course of the cooperative activities.

(c) The rights of a Party outside the territory of (i) its State (DOE) or (ii) CERN Member States and Associate Member States, as applicable, shall be determined by mutual agreement considering the relative contributions of the Parties and their participants to the cooperative activities, the degree of commitment in obtaining legal protection and licensing of the intellectual property and such other factors deemed appropriate.

(d) Notwithstanding paragraphs III.B(2)(a) and (b) above, if either Party believes that a particular project is likely to lead to or has led to the creation of intellectual property not protected by the laws applicable to the

other Party, the Parties shall immediately hold discussions to determine the allocation of rights to the intellectual property. If an agreement cannot be reached within three months of the date of the initiation of the discussions, cooperation on the project in question shall be terminated at the request of either Party. Such termination is without prejudice to the grant of awards, bonuses and royalties as provided in paragraph III.B(2)(a).

- (e) For each invention made under any cooperative activity, the Party employing or sponsoring the inventor(s) shall disclose the invention promptly to the other Party together with any documentation and information necessary to enable the other Party to establish any rights to which it may be entitled. Either Party may ask the other Party in writing to delay publication or public disclosure of such documentation or information for the purpose of protecting its rights in the invention. Unless otherwise agreed in writing, the delay shall not exceed a period of six months from the date of disclosure by the inventing Party to the other Party.

IV. Business Confidential Information

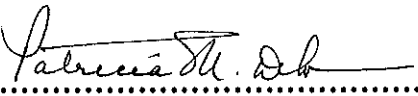
In the event that information identified in a timely fashion as business-confidential is furnished or created under this Protocol, each Party and its participants shall protect such information in accordance with applicable laws, rules, regulations, and administrative practices. Information may be identified as "business-confidential" if a person having the information may derive an economic benefit from it or may obtain a competitive advantage over those who do not have it, and the information is not generally known or publicly available from other sources, and the owner has not previously made the information available without imposing in a timely manner an obligation to keep it confidential.

Article VIII
Final Provision

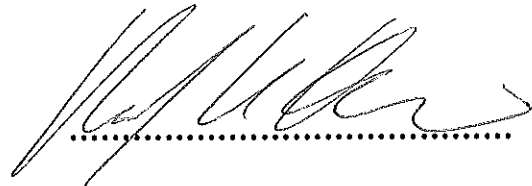
Each Party's participation in the activities contemplated by this Protocol is subject to the availability of appropriated funds, personnel, and other resources.

DONE in duplicate:

**FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES
OF AMERICA**


.....

**FOR THE EUROPEAN ORGANIZATION
FOR NUCLEAR RESEARCH**


.....

Rolf-Dieter Heuer
Director-General

On *July 11*.....2014

On *June 20th*.....2014