

**LOAN AGREEMENT**  
**among**  
**THE DEPARTMENT OF ENERGY**  
**OF THE UNITED STATES OF AMERICA**  
**and**  
**THE MINISTRY OF EDUCATION, UNIVERSITIES AND RESEARCH**  
**OF THE ITALIAN REPUBLIC**  
**and**  
**THE EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH**  
**CONCERNING THE ICARUS T600 DETECTOR**

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

and

the Ministry of Education, Universities and Research of the Italian Republic ("MIUR"),

and

the European Organization for Nuclear Research ("CERN"), an Intergovernmental Organization,

(hereinafter collectively referred to as "the Parties" and individually referred to as a "Party"):

NOTING the Project Annex to the Implementing Arrangement between the Department of Energy of the United States of America and the Ministry of Education, Universities and Research of the Italian Republic for Cooperation in the Areas of High Energy, Astroparticle and Nuclear Physics Concerning Neutrino Physics Research of July 17, 2015 (hereinafter "Project Annex"), and the DOE and MIUR efforts to define the framework for collaboration between DOE's Fermi National Accelerator Laboratory ("Fermilab") and MIUR's Istituto Nazionale di Fisica Nucleare on the Short Baseline Neutrino ("SBN") Program hosted at Fermilab;

NOTING the Addendum I to Neutrino Protocol I between the Department of Energy of the United States of America and the European Organization for Nuclear Research to the Co-operation Agreement Concerning Scientific and Technical Co-operation in Nuclear and Particle Physics of May 2, 2017 (hereinafter "Addendum I") aimed at defining the framework for CERN's participation in the United States Neutrino Program;

RECOGNIZING the importance of the ICARUS T600 Detector (hereinafter "ICARUS"), which incorporates contributions from both MIUR and CERN, to the collaborative efforts of all Parties pursuant to the foregoing agreements; and

DESIRING to further the collaborative efforts of the Parties in advancement of neutrino physics by establishing parameters for the loan of ICARUS to DOE for its use in the SBN Program at Fermilab,

Have agreed as follows:

## **Section 1**

### **Purpose**

- 1.1 The purpose of this Loan Agreement is to define the terms and conditions for the loan of ICARUS to DOE for use in the SBN Program at Fermilab. It is understood that the term "use," as employed in this Loan Agreement, comprises installation, commissioning, maintenance, operation and any related activity, but excludes decommissioning, return and/or disposal. It is also understood that final responsibility for safety oversight of ICARUS when in use at Fermilab rests with DOE's managing and operating contractor at Fermilab.
- 1.2 The Loan Agreement governs the responsibilities and liabilities of the Parties with respect to the loan of ICARUS to DOE for use at Fermilab. Unless expressly provided for herein, this Loan Agreement does not apply to or affect other rights and responsibilities between or among the Parties as applicable under the Project Annex, Addendum I, or any other agreements or arrangements of the Parties in regard to the SBN Program at Fermilab. The Parties agree that in the event of any conflict relating to topics covered herein between the terms of any agreement between MIUR or CERN and a managing and operating contractor for a DOE national laboratory, on the one hand, and this Loan Agreement, on the other hand, the latter shall prevail.

## **Section 2**

### **Ownership**

- 2.1 The Parties acknowledge and agree that nothing in this Loan Agreement shall address, supersede or affect in any way the matter of ownership and title to ICARUS, in whole or in part, as between MIUR and CERN. The Parties acknowledge that the matter of ownership and title to ICARUS, in whole or in part, will be addressed separately and is outside the scope of this Loan Agreement.

- 2.2 The Parties agree that DOE's acceptance of ICARUS at Fermilab pursuant to this Loan Agreement does not confer on DOE the rights or responsibilities of ownership or title to ICARUS, or affect in any way the rights of any other Party with respect to ownership and title to ICARUS.

### **Section 3**

#### **Terms and Conditions**

- 3.1 The Parties acknowledge that, pursuant to Addendum I, CERN shipped ICARUS to Fermilab, where it is presently located.
- 3.2 DOE hereby accepts ICARUS as a loan of personal property as of the effective date of this Loan Agreement subject to the terms of this Loan Agreement, and subject to completion of visual inspection of ICARUS by DOE or its managing and operating contractor at Fermilab.
- 3.3 Notwithstanding Articles 6.2 and 6.3 of Addendum I, DOE and CERN agree that the delivery of ICARUS to Fermilab, and DOE's acceptance of the loan of ICARUS pursuant to this Loan Agreement, does not constitute a transfer of ownership of ICARUS to DOE, nor DOE's assumption of all risk and responsibility for ICARUS in its operation or disposal.
- 3.4 This Loan Agreement does not apply to or govern the responsibilities of the Parties with respect to decommissioning, return and/or disposal of ICARUS following its use at Fermilab. The Parties shall endeavor to enter into a separate agreement to address the decommissioning, return and/or disposal of ICARUS two (2) years prior to the termination of SBN Program operations, but in no case later than six (6) months prior to termination of this Loan Agreement.

### **Section 4**

#### **Liabilities and Responsibilities**

- 4.1 DOE shall be responsible for hosting ICARUS while on loan at Fermilab in accordance with and for the duration of this Loan Agreement.
- 4.2 DOE shall be responsible for, and bear the cost of, safekeeping of ICARUS while at Fermilab prior to its decommissioning, return and/or disposal; provided that DOE shall not be responsible for loss of or damage to ICARUS due to normal wear and tear in the course of its intended use, or for repairs beyond those that DOE, in its sole discretion, determines are reasonably necessary and cost-effective for purposes of safekeeping of ICARUS.



- 4.3 DOE shall not be responsible for, or bear the cost of, replacing ICARUS, in the case of total loss of or damage to ICARUS beyond reasonable repair, except where the total loss or damage is caused solely by the gross negligence or intentional harm of DOE or a DOE contractor or their personnel.
- 4.4 DOE shall not be responsible for loss of or damage to ICARUS under Sections 4.2 or 4.3 of this Loan Agreement that results from the acts or omissions of MIUR, CERN, or other non-DOE-funded ICARUS collaborating institutions or their personnel. In such circumstances, the members of the ICARUS collaboration will consult on appropriate methods of settlement.
- 4.5 In the event that liabilities, claims or costs, other than those covered by Sections 4.2, 4.3 or 4.4 of this Loan Agreement, are incurred related to the use of ICARUS, the Parties shall consult on appropriate methods of settlement.

## **Section 5**

### **Legal Provisions**

- 5.1 Each Party shall conduct activities under this Loan Agreement in accordance with the applicable laws, regulations and procedures to which it is subject.
- 5.2 Each Party's participation in the activities under this Loan Agreement is subject to the availability of appropriated funds, personnel, and other resources.
- 5.3 Except as otherwise specified herein or in a separate written agreement between or among the Parties, each Party shall bear the costs of its participation in activities under this Loan Agreement.

## **Section 6**

### **Duration, Amendment and Termination**

- 6.1 This Loan Agreement shall enter into force upon signature of the last of the Parties and shall remain in force for the duration of SBN Program operations, unless earlier terminated in accordance with Section 6.3 of this Loan Agreement.
- 6.2 This Loan Agreement may be amended by mutual written agreement of the Parties.
- 6.3 This Loan Agreement may be terminated by mutual written agreement of the Parties, subject to Section 3.4. In the event that a Party wishes to terminate its participation in this Loan Agreement, it shall provide at least six (6) months advance written notice to the other

Parties, during which the Parties shall consult to mutually determine an appropriate allocation of responsibilities and costs; it being understood, however, that the provisions of this Loan Agreement shall continue to apply in respect of all costs and any claims or liabilities incurred prior to such Party's termination.

DONE in triplicate in the English language.

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

James Siegrist

Date: 9-may-2018

Place: Washington, DC

**FOR THE MINISTRY OF  
EDUCATION, UNIVERSITIES  
AND RESEARCH  
OF THE ITALIAN REPUBLIC:**

Ferrari

Date: 22 MAY 2018

Place: ROME

RL

**FOR THE EUROPEAN  
ORGANIZATION FOR  
NUCLEAR RESEARCH:**

Fabrizia Gianotti

Date: 16 May 2018

Place: Genova