

AMENDMENT No. 1

(hereinafter the "**Amendment**")

to the Framework Contract for Services [No.: 160/19] concluded on 16. 10. 2019 (hereinafter the "**Contract**") between the following

1. Parties

1.1. Client:

Ústav jaderné fyziky AV ČR, v. v. i. (hereinafter "**Nuclear Physics Institute**")

(Nuclear Physics Institute of the Czech Academy of Sciences, public research institution)

registered office: Husinec - Řež 130, 250 68, Czech Republic

represented by: Ing. Ondřej Svoboda, Ph. D., Director

registered in the Register of Public Research Institutions administered by the Ministry of Education, Youth and Sports of the Czech Republic (hereinafter the "**MEYS**")

ID No.: 61389005

Tax ID: CZ61389005

and

Archeologický ústav AV ČR, Praha, v. v. i. (hereinafter "**Institute of Archaeology**")

(Institute of Archaeology of the Czech Academy of Sciences, Prague, public research institution)

registered office: Letenská 4, 118 01, Praha 1, Czech Republic

represented by: Mgr. Jan Mařík, Ph. D., Director

registered in the Register of Public Research Institutions administered by MEYS

ID No.: 67985912

Tax ID: CZ67985912

(Nuclear Physics Institute and Institute of Archaeology hereinafter jointly the "**Client**")

and

1.2. Contractors:

1.2.1. Contractor No. 1:

The University of Arizona, AMS Laboratory

registered office: University of Arizona, Physics Building #81, 1118 E.4th St, Tucson, AZ 85721-0081, USA

represented by: Ramachandran Radhakrishnan, Director – Office of Research Contracts

registered in Arizona, USA

ID No.: N/A

Tax ID: 74-2652689

University of Arizona Banking Information Update:

ACH (Default method)	
Bank:	
Account Name:	
Account Number:	
Routing Number:	
Bank Address:	

1.2.2. Contractor No. 2:

ETH Zürich, Laboratory of Ion Beam Physics

registered office: ETH Zürich, Labor Ionenstrahlphysik, Otto-Stern-Weg 5, 8093 Zürich, Switzerland

represented by: Prof. Dr. Hans Arno Synal, Head of the Laboratory

registered in Switzerland

ID No.: CHE-115.203.630

Tax ID: CHE-115.203.630 MWST

1.2.3. Contractor No. 3:

Leibniz-Labor für Alterbestimmung und Isotopenforschung der Christian-Albrechts-Universität zu Kiel

registered office: Max-Eyth-Str. 11-13, D – 24118 Kiel, Germany

represented by: Dr. Christian Hamann, Laboratory Manager

registered in: N/A

ID No.: N/A

Tax ID: DE 811317279

1.2.4. Contractor No. 4:

DirectAMS

registered office: 11822 North Creek Parkway North, Suite 107, Bothell, WA 98011, USA

represented by: Alyssa Tate on behalf of Glenn Kawasaki, Director of Lab Operations

registered in Bothell, WA, USA

ID No.: N/A

Tax ID: 20-1178470

(hereinafter any of them the “**Contractor**” and jointly the “**Contractors**”)

(the Client and each of the Contractors also referred to as the “**Party**” and jointly “**Parties**”).

2. INITIAL PROVISIONS

- 2.1. Terms and definitions with capital letters used in this Amendment shall have the same meaning as in the Contract, unless specified otherwise herein.
- 2.2. As of October 16th, 2019 the Client concluded the aforementioned Contract with the Contractors who had been selected as the winning bidders in a procurement procedure named “Radiocarbon dating using AMS – Round 3”, in accordance with the rules of the Operational Programme Research, Development and Education (hereinafter the “**OP RDE**”).
- 2.3. The Client, acting as the founder of a newly established laboratory, entered into a partnership with the Contractors, who have been renowned foreign laboratories. As noted in the Tender documentation of the above procurement procedure, the Client's aim was to seek various laboratories (i.e., Contractors) for the Services in order to maximize objectivity, reliability and significance of the analysis results to be used for research purposes during the Project (i.e., Client's OP RDE project called “RAMSES”). Therefore, as given in Article 2.1 of Tender documentation, the total amount of Services was supposed to be divided between several Contractors. Together, they commenced performing the requisite control analyses for the Project. According to Article 2.2 of Tender documentation, the anticipated number of samples submitted for radiocarbon dating was 60 pieces in total for duration of the Project and according to Article 1 of Tender documentation, the estimated value of the Public Contract was set at CZK 630.000 excl. VAT. Nevertheless, as given in Article 2.1 of Tender documentation, the Client made a reservation that estimating the actual need for the dating of samples and its amount had been objectively impossible. However, changes to the Contract, not excluding orders for Services beyond the anticipated number of samples, may be made only in the manner set out in Article 9.3 of the Contract.
- 2.4. According to the above as well as Article 3.5 of the Contract, the Contractors were obliged to accept Client's orders for Services up to their maximum anticipated scope within the framework of the Contract given by the abovementioned estimated value, including submission of 60 samples for Radiocarbon dating at the Contractors, and provide the Services to the Client for the relevant unit prices agreed for each of the Contractors in Annex No. 1 - Specifications of Price and Uncertainty.

- 2.5. The Client declares that during the research, it was discovered that the portfolio of sample matrix types could be expanded beyond the Client's initial assumptions at the time of the above procurement procedure. Based on this crucial finding, an increase in the number of sample matrix types proved absolutely necessary to maintain the Project's continued performance. The enlargement of the matrix types portfolio necessitated an increase in the number of control samples to ensure that the credible results obtained through the methodologies used by the Client's laboratory could be documented to the professional public, compared with the outcomes from foreign laboratories. It is essential to note that the analysis of the samples is time-consuming, taking several months. Therefore, the Client immediately ordered additional analyses to avoid disrupting the ongoing research, maintaining the continuity and compatibility of the existing results, and preserving the original characteristics of the new matrix types.
- 2.6. The Parties acknowledge that such analyses, which may have been ordered in excess of the originally estimated scope, fall within the definition of Services under the Contract.
- 2.7. In view of the aforementioned, it is clear that orders of Services provided by the Contractors for the Client in the scope exceeding the initially estimated number of samples have been necessary while the need for them has arisen due to circumstances which the Client, acting with due diligence, could not foresee at the time of Contract conclusion.
- 2.8. The Parties further acknowledge that they have achieved a close collaborative setup through a difficult and lengthy coordination of methodologies between them during the Contract. As meeting the aims of the Project relies on that setup, a change in Contractors for the Services is not feasible, since it would result in the incompatibility of radiocarbon dating results. Moreover, changing Contractors would be economically disadvantageous for the Client as it would lead to price increase, taking into account the relatively high rate of inflation recently compared to the time of conclusion of the Contract. Therefore, as the change in Contractors would jeopardize interoperability of the Services and significantly increase the Client's costs, the change is not possible for economic and technical reasons.
- 2.9. With respect to the facts that (i) the Client could not foresee the actual need for dating of samples and their numbers resulting from the unforeseeable circumstances and discoveries made during the research, (ii) increasing the total numbers of samples is necessary for the achievement of the Project goals and (iii) technical and economic reasons prevent changing the Contractors, (iv) the scope of Services is increased by the necessary additional sample analyses while the nature, parameters and unit prices of the Services are maintained, and (v) the value of the Contract upon increase does not exceed the limit that is set by law applicable to a small-scale Public Contract, the increase in the scope of Services is made due to unforeseen and necessary extra work in the extent not prohibited by law.
- 2.10. In order to comply with the OP RDE regulations, particularly Article 12.3.8, paragraphs 3 and 4 of the Contract ("Amendment of Contractual Obligations"), including permissible reason for amending a Contract, and follow the procedure prescribed by Article 9.3 of the Contract, the Parties hereby conclude this Amendment.
- 2.11. The purpose of this Amendment is to appropriately expand the originally anticipated scope

of the Services (i.e., the anticipated number of samples) and total value of the Contract, as well as to provide the Parties with legal certainty as to their rights and obligations under orders for Services issued in excess of the original anticipated scope under the Contract prior to its increase by this Amendment and to remove any doubt that may eventually arise from such orders.

3. CHANGE TO THE CONTRACT AND SETTLEMENT OF ADDITIONAL ORDERS

3.1. With respect to the above, the Parties agree hereby on the below changes:

3.1.1. Article 3.5 of the Contract shall be herewith amended as follows: "The Contractor shall be obliged to accept the Client's orders for Services up to their maximum anticipated scope; the total number of samples submitted by the Client to the Contractors for radiocarbon dating must not exceed 120 pieces (except those that cannot be dated) for the duration of this Contract."

3.1.2. In accordance with the above scope limitation, the Parties hereby expressly agree that the total value of Services invoiced by the Contractors to the Client over the duration of the Contract shall not exceed the sum of CZK 860.220 excl. VAT in total for all Contractors, while maintaining the unit prices specified in Annex No. 1 to the Contract.

3.2. For avoidance of any doubts, the Parties hereby settle and adjust their rights and obligations from orders for Services under the Contract as follows:

3.2.1. If Services pursuant to the Contract were ordered beyond the originally anticipated scope of the Services prior to the conclusion of this Amendment and the Services do not exceed the scope increased by this Amendment, the Parties hereby agree that all such Services shall be deemed ordered duly and timely as well as within the agreed scope of the Services from the date of order issue, as if the scope had been already extended at the time of order issuance.

3.2.2. Similarly, the Services provided by the Contractors to the Client according to those orders shall be deemed to have been provided within the scope of the Contract.

4. CONCLUDING PROVISIONS

4.1. To the extent not otherwise expressly regulated herein, the Contract remains unchanged.

4.2. This Amendment becomes valid on the day of its signature by the Parties and effective upon its publication in the Register of Contracts, which is to be made by Nuclear Physics Institute.

4.3. This Amendment may be executed in multiple counterparts which do not differ in content except for the signatory representatives and the dates of signature in each counterpart. Nuclear Physics Institute, Institute of Archaeology and each of the Contractors shall each receive at least one (1) counterpart of this Amendment.

In witness of the agreement with this entire Amendment, the Parties attach their signatures:

The Client:

In Řež, Czech Republic, on 29. 06. 2023

In Praha, Czech Republic, on 27. 06. 2023

Name: Ing. Ondřej Svoboda, Ph. D.

Position: Director

On behalf of: Nuclear Physics Institute

Name: Mgr. Jan Mařík, Ph. D.

Position: Director

On behalf of: Institute of Archaeology

The Contractors:

The Contractor No. 1:

In Tucson, AZ, USA, on 30. 06. 2023

The Contractor No. 2:

In Zürich, Switzerland, on 19. 06.2023

Name: Ramachandran Radhakrishnan, PhD

Position: Director, Office of Research Contracts

On behalf of: The University of Arizona, AMS
Laboratory

Name: Prof. Dr. Hans Arno Synal

Position: Head of the Laboratory

On behalf of: ETH Zürich, Laboratory of Ion
Beam Physics

The Contractor No. 3:

In Kiel, Germany, on 19. 06.2023

The Contractor No. 4:

In Bothell, WA, USA, on 09. 06. 2023

Name: Dr. Christian Hamann

Position: Laboratory Manager

On behalf of: Leibniz-Labor für
Alterbestimmung und Isotopenforschung der
Christian-Albrechts-Universität zu Kiel

Name: Alyssa Tate on behalf of Glenn Kawasaki

Position: Director of Lab Operations

On behalf of: DirectAMS