**AMENDMENT No. 2**

**to the Contract for Work of 11 September 2014**

On this day, month, and year, the following Contracting parties:

**Fyzikální ústav AV ČR, v. v. i.**

Registered office at Na Slovance 2, 182 21 Praha 8,

Identification No. 68378271

represented by RNDr. Michael Prouza, PhD., Director

(hereinafter the “**Client**”)

and

**National Energetics, Inc.**

having the registered office in 4616 West Howard Lane, Bldg. 1, Suite 105, Austin, TX 78728, USA

Identification No.: 80-0709821

Registered in Delaware, USA

Represented by Dr. Todd Ditmire, the President

(hereinafter the “**Contractor No. 1**”)

**UAB EKSPLA**

having the registered office in: Ekspla, Savanoriu Av. 237, LT-02300, Vilnius, Lithuania

Identification No.: 121706497

Registered in Vilnius, Lithuania

Represented by Kestutis Jasiunas, the Chief Executive

hereinafter the “**Contractor No. 2**”

(Contractor No. 1 and Contractor No. 2 hereinafter jointly referred to as the “**Contractor”**; the Client and the Contractor may be referred to herein jointly as the “**Contracting parties**” or each of them separately as the “**Contracting party**”)

have agreed on this Amendment No. 2 to the Contract for Work made between the Contracting parties on 11 September 2014 (hereinafter the “**Amendment**” and the “**Main contract**”):

**PREAMBLE**

1. On 11 September 2014, the Contracting parties have concluded the Main contract, the subject matter of which is the design, assembling, testing, performance optimization, and delivering to the Client a laser system capable to deliver pulses with energy of at least 1.2 kJ in a single aperture, with duration of the uncompressed pulse of the order of few ns, and with sufficient bandwidth to allow for direct pulse compression compatible with reaching 10 PW peak power, as further specified in the Main contract. Amendment No 1 to the Main contract was concluded on 27 September 2017 and among other terms the currently valid Delivery and Payment Schedule (hereinafter the “**Delivery and Payments Schedule**”) is included in the amendment No 1.
2. As of the date of this Amendment the Contractor is in delay with due performing certain Deliverables in deadlines as stipulated by the Delivery and Payments Schedule. The Contractor shall perform the delayed Deliverables D6 to D9 (i.e. already delayed Deliverables or Deliverables where delay is unavoidable) in deadlines and under terms as stipulated herein and shall be entitled to receive partial payments from the Client as stipulated herein if the performance is delivered in accordance with this Amendment. However, the schedule contained herein does not amend or replace the schedule included in the currently valid Delivery and Payments Schedule and the liability of the Contractor for breaching the Delivery and Payments Schedule (and therefore the Main contract itself) including any legal consequances of the breach remain unaffected by the terms hereof.
3. Part of the subject matter of the Main contract is also the manufacturing, delivery and installation of a high-vacuum chamber that will house an optical system of an optical pulse compressor. The Contractor entered into a subcontract for the manufacturing, delivery and installation of the vacuum chamber in the scope of delivery as stipulated therein (hereinafter the “**Vacuum chamber**”) with the Czech company **STREICHER, spol. s.r.o. Plzeň,** id. No. 14706768, registered office atPlzeňská 565, 332 09 Štěnovice on 26 April 2018 (hereinafter the “**Subcontract**” and the “**Subcontractor**”).
4. The other purpose of this Amendment is to allow for direct payments for duly executed deliverables under the Subcontract from the Client to the Subcontractor and to deal with some related topics. Execution of any payment under this Amendment from the Client to the Subcontractor shall be deemed to be performing duties of the Client under the Main contract. This Amendment No. 2 does not constitute nor award any new public contract to the Contractor nor to the Subcontractor.
5. This Amendment does not constitute any direct legal relation between the Client and the Subcontractor in which the Subcontractor has an enforceable financial nor any other related claim (e.g. any rights from late payments etc.) against the Client. However, by expressing its consent to this Amendment below the Subcontractor agrees to accept payments executed under this Amendment (if they are made) as if they were executed by the Contractor under the Subcontract.
6. Due and timely delivery of the Vacuum chamber to the Client remains responsibility of the Contractor under the Main contract despite the fact that the Client may hereunder execute direct payments to the Subcontractor for performing the Subcontract.
7. **CONDITIONS OF PERFORMING THE DELAYED DELIVERABLES**
   1. The Contractor shall carry out the delayed Deliverables D6 – D9 in accordance with the terms and deadlines stipulated in the table annexed hereto as Annex No 1 (hereinafter the “Substitute Schedule”). If the Contractor duly and in time delivers Deliverables D6 – D9 or their parts as stipulated in the Substitute Schedule the Client shall pay the Contractor the relevant amount stated in the Substitute Schedule under the payment terms contained in the Main contract.
   2. If this Amendment is concluded later than any payment according to the Substitute Schedule is due the Client shall execute the payment within 21 days from the date of conclusion hereof. Such later payment does not constitute a breach hereof.
   3. The Client is not obliged to make any payment for performing a part of a Deliverable as stipulated by the Substitute Schedule by the Contractor if that part of the Deliverable is not performed within the deadlines stated in the Substitute Schedule. Executing the payment or time of its execution in such case depends solely on discretion of the Client taking into account all the relevant circumstances (mainly relevance of reasons for the delay and availability of funds for the payment). If the Client does not pay for the delayed part of the Deliverable in the case envisaged in this section 1.3 the corresponding amount will be due upon finalizing the Deliverable.
   4. The Substitute Schedule serves mainly to stipulate deadlines for finalization of the delayed Deliverables D6 – D9 and some of their parts and to agree on the payment for those Deliverables and/or their parts. Legal liability of the Contractor for late performance of the Deliverables D6 – D9 (as compared to the currently valid Delivery and Payments Schedule) remains unaffected.
8. **DIRECT PAYMENTS TO THE SUBCONTRACTOR**
   1. If the following conditions are met:
9. the Subcontractor under the Subcontract is entitled to charge the Contractor a payment based on meeting all relevant conditions stipulated by the Subcontract,
10. other conditions for the corresponding payment according to the Substitute Schedule are fulfilled,
11. the Client notified both the Subcontractor and the Contractor before the relevant invoice is issued that it is ready to execute the payment directly to the Subcontractor and
12. an invoice conforming to requirements stipulated in art. 7 of the Main contract is delivered to the Client by the Subcontractor,

the Client shall pay the payment (titled in the Substitute Schedule as “Payment to STREICHER”) directly to the Subcontractor.

No provision hereof shall be interpreted as constituting a legal obligation of the Client to make any payment directly to the Subcontractor. However, the Client shall exercise every reasonable effort to do so. The Client may always opt for paying any “Payment to STREICHER” to the Contractor in case the direct payment to the Subcontractor is for any substantiated reason impossible or improper for the Client.

* 1. If the Client pays any payment to the Subcontractor inline herewith a corresponding claim as shown in the Annex No 1 hereto of the Contractor under the Main contract is automatically decreased by the amount actually paid to the Subcontractor (excluding, however, any payment of VAT by the Client to the Subcontractor that shall not decrease the level of the Contractor’s claim under the Main Contract).
  2. The Client shall make payments to the Subcontractor in Czech crowns. Amount to be paid to the Subcontractor shall be converted from USD to CZK on the basis of the exchange rate of the Czech National Bank, valid at the day of signature of the Subcontract.

1. **OTHER TERMS**
   1. In case of premature termination of the Subcontract where the Subcontractor has the duty to return any already paid (by the Client) part of the purchase price for the Vacuum chamber delivery the Contractor shall direct the Subcontractor to remit the respective amount of money directly to the Client. Unless otherwise agreed by the Client in writing the Contractor is not entitled to request that the Subcontractor remits the money to the accounts of the Contractor.

The Contractor is entitled to prematurely terminate the Subcontract with a one sided action or by way of an agreement only after consultation with the Client. If it is obvious from all the relevant circumstances that the intended premature termination puts at risk funding already provided by the Client then executing the termination act by the Contractor is subject to a prior written consent of the Client.

* 1. The Contractor is entitled to agree on any extra works under the Subcontract increasing the purchase price under the Subcontract only with a prior written consent of the Client if any extra costs are to be paid by the Client. Extra works price paid by the Client will always be automatically deducted from the first following payment from the Client to the Contractor under the Main contract if not agreed otherwise in written by the Contracting parties.
  2. The Contractor is not entitled to agree to an amendment to the Subcontract without prior written consent of the Client if such modification is able to anyhow deteriorate the legal position of the Client or it anyhow affects legitimate interests of the Client.

1. **FINAL PROVISIONS**
   1. All terms used in this Amendment with capital letters have the same meaning as stipulated by the Main contract, unless expressly stipulated otherwise in this Amendment.
   2. This Amendment is valid from the date of signature by both Contracting parties. This Amendment comes into effect in accordance with the Czech Act No. 340/2015 Coll., on the register of contracts, as amended, in the moment of its publication in the register.
   3. No other modifications and alterations to the Main contract are intended or implied by this Amendment. All existing terms of the Main contract remain in effect, unless expressly modified or replaced through this Amendment.
   4. The annexes listed below form an integral part of this Amendment:

a) the Substitute Schedule

* 1. This Amendment has been executed in four counterparts whereas each Contracting party receives two counterparts.

In Prague on \_\_\_\_\_\_\_\_\_, 2018

On behalf of: **Fyzikální ústav AV ČR, v. v. i.**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name: RNDr. Michael Prouza, PhD.

Title: Director

In \_\_\_\_\_\_ on \_\_\_\_\_\_\_\_\_, 2018

On behalf of: **National Energetics, Inc.,**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name:

Title:

In \_\_\_\_\_\_ on \_\_\_\_\_\_\_\_\_, 2018

On behalf of: **UAB EKSPLA**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name:

Title:

On behalf of: **STREICHER, spol. s.r.o. Plzeň**

**We hereby express our consent with the terms hereof.**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name:

Title:

**Annex No. 1 The Substitute Schedule**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Current payment** | **Scheduled Milestone Date** | **Original Value** | **Revised Payment Date** | **New Value** | **Description / Requirements** | **Documented by** |
| **D6** | 11-Jul-18 | $2,002,500 (5%) | 22-May-18 | $1,000,000 | Fulfilment of partial Deliverables 6.5, 6.8, 6.10 | Technical Report on 6.5, 6.8, 6.10 |
| 11-Jul-18 | $1,002,500 | Fulfilment of rest of D6 | As per Main contract D6 Technical Report |
| **D7** | 11-Sep-18 | $801,000 (2%) | 1-Jun-18 | $309,377.39 | Payment to Streicher (20% of compressor tank cost) | Design and FEM Technical Report |
| 15-Jun-2018 | $450,000 | Full packing and shipment plan handed to ELI-BL | L4 Tear Down and Packaging Plan |
| 11-Sept-18 | $41,622.61 | Payment for remainder of D7 | As per Main contract Incoming Hardware Inspection Record |
| **D8** | 31-Dec-18 | $801,000 (2%) | 1-Jun-18 | $464,066.08 | Payment to Streicher (30% of compressor tank cost) | Design and FEM Technical Report |
| 30-Sep-18 | $250,000 | PFN and PA1/PA2 cables installation completed | Verification Record |
| 31-Dec-18 | $86,933.92 | Payment for remainder of D8 | As per Main contract Demonstration and D8 Confirmatory Report |
| **D9** | 31-Dec-19 | $2,403,000 (6%) | 15-Feb-19 | $513,528 | Completion and commissioning of all EKSPLA subsystems, delivery of documentation | Technical Report on EKSPLA Subsystems, Manuals |
| 28-Feb-19 | $125,000 | Wavefront characterization in different operational regimes for users | Technical Report |
| 30-Jun-19 | $773,443.47 | Payment to Streicher (50% of compressor tank cost) | Vacuum Performance Test at Streicher, Delivery to ELI site, Final Acceptance and Handover |
| 31-Dec-19 | $991,028.53 | Final payment | As per Main contract Demonstration and Final Technical Report |

**Staffing Level:**

The Contractor commits to staffing levels in the ELI Beamlines facility that are commensurate with the execution of Deliverables D7, D8 and D9 in the ELI labs. The contractor commits that the Contractor No 1 has on average (exact staffing levels will go up and down based on the tasks at hand) 8 Full Time Equivalent (FTE) employees on site during the redeployment phase (scheduled between mid-September and December 2018.) These staff will be augmented by Contractor No 2 support staff as needed (up to 4 FTEs). Among this staff there will be experts in the following areas:

1. OPCPA Expert
2. Liquid cooled amplifier engineers
3. Pulsed power expert
4. PhD Laser and Optical physicists for total system integration
5. Electronic Control System engineers
6. Project management oversight staff

For the period between January and June 2019 the Contractor No 1 commits to provide on average 1.5 Full Time Equivalent (FTE) NE staff on the ELI site, for further improvements of quality of the L4 system output beam. Upon reception of the compressor chamber in mid-2019 the Contractor No 1 commits to provide on average 4.5 FTE NE staff on the ELI site, for activities related to execution of D9 milestone.