

SPP No. [REDACTED], PTS-1, Mod 3

**MODIFICATION NO. 3 TO**  
**UMBRELLA STRATEGIC PARTNERSHIP PROJECT NO. [REDACTED], PTS-1**

**PROJECT TASK STATEMENT****No. 1****BETWEEN****Battelle Energy Alliance, LLC**  
**(hereinafter "Contractor" or "BEA")****AND****Lightbridge Corporation**  
**(hereinafter "Sponsor" or "Lightbridge")****10/23/2024****Produce U-Zr Coupons for Capsule Irradiation**

This Project Task Statement (PTS) is under the authority and subject to all terms and conditions of Umbrella Strategic Partnership Project Agreement (SPP) No. [REDACTED].

This Modification No. 3 is to increase the Contractor's estimated cost for the work to be performed under this agreement from \$1,708,623.00 to \$2,003,048.00.

**A. PURPOSE**

The fabrication and characterization of specimens is an important component of any irradiation experiment. The development of a casting and extrusion process to create the desired fuel form for this experiment is substantial. The work will include developing a casting process, heat treating billets from the casting process, machining them into a shape suitable for extrusion, developing an extrusion process, heat treating extruded slugs, and characterizing microstructural and compositional features of the final extruded product. Any necessary development work will be done with depleted uranium (DU). After the process is proven successful, it will be repeated with enriched uranium to produce fuel slugs for the related irradiation experiment.

**B. SCOPE****Duration of PTS**

The period of performance of this PTS is [REDACTED].

**Technical Objectives**

This PTS is focused on the proof of ability to fabricate a delta-phase U-Zr ingot that is suitable for extruding fuel coupon specimen in accordance with Lightbridge fuel specifications. Fabrication test specimen will be made with depleted uranium (DU), irradiation test specimens will be made with enriched uranium. Final fuel coupons will match the requirements specified by previous experiment design documents (e.g., enrichment). Tasks in this PTS cover the following work:

- Casting U-Zr ingot; and characterization of cast ingot

### Tasks and Division of Responsibilities

### Task 1: Create Fuel Specification to Support Casting

[illegible]

## Task 2: Fabrication Mockup

### Task 2.1: Extrusion Method Tooling

[REDACTED]

### Task 2.2: Casting Demonstration

[illegible]

### Task 2.3: Extrusion Demonstration

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### Task 3: Casting of Enriched Ingot

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#### Task 4: Fabrication of Enriched Coupon

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### Task 5: Characterization of Ingot & Extruded Products

### Task 5.1: Microstructural Characterization

\_\_\_\_\_

[REDACTED]

[REDACTED]

#### **Task 5.2: Thermal Property Assessment**

[REDACTED]

#### **Task 5.3: Mechanical Property Assessment**

[REDACTED]

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Task No.	Task	Contractor Role/Responsibilities	Sponsor's Role
1	Create Specification to Support Casting	[REDACTED]	[REDACTED]
2	Demonstration/ Mockup of Methods	[REDACTED]	[REDACTED]
3	Casting of Ingot	[REDACTED]	[REDACTED]

Task No.	Task	Contractor Role/Responsibilities	Sponsor's Role
		[REDACTED]	[REDACTED]
4	Extrusion of Coupons	[REDACTED]	[REDACTED]
5	Characterization of Ingot & Extruded Products	[REDACTED]	[REDACTED]

**Hold Points**

Task No.	Do not proceed to:	Until this is completed:
1	Task No. 2.2/2.3	[REDACTED]
2.1	Task 2.3	[REDACTED]
2	Task No. 3	[REDACTED]
3	Task No. 4	[REDACTED]
4	Task No. 5	[REDACTED]

**C. ASSUMPTIONS**

- [REDACTED]
- [REDACTED]

- [REDACTED]  
[REDACTED]
- [REDACTED]  
[REDACTED]

#### D. TECHNICAL CONTACTS

**For Contractor:**

[REDACTED]

**For Sponsor:**

[REDACTED]

#### E. PROJECT MANAGEMENT CONTACTS

**For Contractor:**

[REDACTED]

**For Sponsor:**

[REDACTED]

#### F. COSTS

1. The Contractor estimated cost for the work to be performed under this Agreement is \$2,003,048.00.
2. The Contractor has no obligation to continue or complete performance of the work at a cost in excess of its estimated cost, including any subsequent amendment.
3. The Contractor agrees to provide at least 30 days' notice to the Sponsor if the actual cost to complete performance will exceed its estimated cost.

**Payment Terms:**

[REDACTED]



[REDACTED]

The Sponsor shall pay the Contractor as follows:

A. Advance Payment. [REDACTED]

B. Monthly Payments. [REDACTED]

1. Invoices will be submitted electronically to the Sponsor at the following address:

[REDACTED]

C. Applicable Currency. All payments due the Contractor under this Agreement, including cost estimates and obligations of funds, shall be in United States dollars (U.S.\$).

**G. FINANCIAL AND PROJECT PERFORMANCE REPORTING**

BEA will provide monthly cost and schedule data outputs from INL standard project reporting tools to Sponsor after each end of fiscal year (FY) month processing. A minimum subset of data should include Schedule and Cost Performance Indices, a standard Cost Performance Report with performance measurement baseline (PMB) curve to include EAC/ETC data as well as any variances & associated descriptions/ corrective action plans (this is typically called a “format 5 VAR” or agreed equivalent). Reporting detail shall be provided at the same work break down structure (WBS) level as agreed upon in the project schedule and cost estimate developed by BEA in support of this PTS.

*IN WITNESS WHEREOF, the Parties hereto have executed this Modification by their authorized representatives on the dates shown below.*

**BATTELLE ENERGY ALLIANCE, LLC:**

Name: [REDACTED]

Title [REDACTED]

Date: [REDACTED]

Signature: [REDACTED]

**LIGHTBRIDGE CORPORATION:**

Name: Andrey Mushakov

Title Executive Vice President, Nuclear Ops.

Date: October 24, 2024

Signature: [REDACTED]