

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

MODIFICATION NO. 3 TO
UMBRELLA COOPERATIVE RESEARCH AND DEVELOPMENT
AGREEMENT NO. [REDACTED], PTS-1

PROJECT TASK STATEMENT**No. 1****BETWEEN**

Battelle Energy Alliance, LLC
(hereinafter “Contractor” or “BEA”)

AND

Lightbridge Corporation
(hereinafter “Participant” or “Lightbridge”)

01/13/2025**Supply of Enriched Uranium and Materials for Coupon and Experiment Irradiation**

This Project Task Statement (PTS) is under the authority and subject to all terms and conditions of Umbrella Cooperative Research and Development Agreement (CRADA) No. [REDACTED].

This Modification No. 3 is to increase the Participant’s funds-in contribution by \$1,642,127.17 and add an Installment Payment to the Payment Terms in Section E.

A. PURPOSE

This PTS is focused upon the assembly of the experiment for irradiating Lightbridge fuel alloy (U-Zr) within the Advanced Test Reactor (ATR). This work is based upon the final design documents produced by work funded through a Gateway for Accelerating Innovation in Nuclear (GAIN) voucher. Tasks in this PTS include the following work:

- Development of the quality implementation plan;
- Provision of materials
- Assembly of experiment;
- Final analysis of experiment;
- Irradiation of experiment at ATR;
- Disposition of materials.

Reasons for Cooperation

See Annex A, Statement of Work, Mod 0 dated 04/07/2022 to CRADA No. [REDACTED].

Public Abstract

Lightbridge Corporation, as a US nuclear fuel company, is seeking irradiation data necessary to advance the technical readiness level (TRL) of its fuel designs and to eventually qualify

them for use within light water reactors (LWR), including water-cooled small modular reactors. Idaho National Laboratory (INL), as the US's premier nuclear fuel laboratory, is an ideal location for Lightbridge Corporation to perform this development as it can support the fabrication, assembly, irradiation, and post-irradiation examination (PIE) of the fuel experiments. Battelle Energy Alliance, LLC is interested in this collaboration as it is the lead fuel testing laboratory for the Department of Energy and its mission is to support industry development of nuclear technology, irradiation testing, and characterization.

B. SCOPE

Duration of PTS

The period of performance of this PTS is

Technical Objectives

The development of the irradiation experiment for Lightbridge will be done in accordance with (IAW) design documents created at INL (Reference: FOR-572). This process will include the development of a project Quality Implementation Plan (QIP) that meets expectations from both Lightbridge and BEA. BEA and DOE will contribute materials such as depleted and enriched uranium feedstocks for the fabrication of ingots and extrusion billets (with casting and extrusion to be performed under a separate SPP agreement). BEA will fabricate irradiation capsule hardware and assemble the experiment with fuel coupons. Lastly, BEA will irradiate the experiment in the ATR.

Tasks and Division of Responsibilities

Task 1: Create Quality Implementation Plan

[REDACTED]

Task 2: Experiment Preparation

Task 2.1: Experiment Design

[REDACTED]
[REDACTED]

Task 2.2: Provision of Materials

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Task 3: Pre-Irradiation Characterization of Coupons

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Task 4: Fabrication, Assembly, and Irradiation of Experiment

Task 4.1 Fabrication and Assembly

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Task 4.2 Irradiation Operation and Shipping

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Task 4.3 Test History Summary Report

[REDACTED]
[REDACTED]
[REDACTED]

Task 5: Quality Assurance Confirmation of Work

[REDACTED]
[REDACTED]
[REDACTED]

Task 6: Final disposition of materials

[REDACTED]
[REDACTED]
[REDACTED]

Deliverable: N/A**Task 7: Financial and Project Performance Reporting**

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Task No.	Task	Contractor Role/Responsibilities	Participant Role/Responsibilities
1	Create Quality Implementation Plan	[REDACTED]	[REDACTED]
2.1	Experiment Design	[REDACTED]	[REDACTED]
2.2	Material Provision	[REDACTED]	[REDACTED]
3	Pre-Irradiation Characterization of Coupons	[REDACTED]	[REDACTED]
4.1	Assembly of Experiment	[REDACTED]	[REDACTED]
4.2	Irradiation of experiment	[REDACTED]	[REDACTED]

Task No.	Task	Contractor Role/Responsibilities	Participant Role/Responsibilities
		[REDACTED]	[REDACTED]
4.3	Final Irradiation Report	[REDACTED]	[REDACTED]
5	Confirmation of Quality Requirements	[REDACTED]	[REDACTED]
6	Disposition of Materials	[REDACTED]	[REDACTED]

Hold Points

Task No.	Do not proceed to:	Until this is completed:
1	2	[REDACTED]
3	4	[REDACTED]
4.1	4.2	[REDACTED]
6	6	[REDACTED]

Assumptions and Exclusions:

A number of assumptions have been made in the preparation of this PTS:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

C. TECHNICAL CONTACTS

For Contractor:

[REDACTED]

For Participant:

[REDACTED]

D. PROJECT MANAGEMENT CONTACTS

For Contractor:

[REDACTED]

For Participant:

[REDACTED]

E. FUNDING AND COSTS

The Participant's estimated contribution is \$5,400,362.83, which includes \$1,172,471.00 in-kind and \$4,227,891.83 funds-in, to the Laboratory. The Government's estimated contribution is material and facility access, which is provided through BEA's contract with DOE.

Payment Terms:

[REDACTED]

The Participant shall pay the Contractor as follows:

A. [REDACTED]

[REDACTED]

B. Monthly Payments. [REDACTED]

C. Installment Payment. [REDACTED]

F. **PERSONAL PROPERTY**

None

G. **BACKGROUND INTELLECTUAL PROPERTY**

Section G provides each Party the opportunity, as a matter of goodwill but not legal obligation, to declare its interests in Intellectual Property that has been created in the "background", i.e., before or outside this PTS. The purpose is to forestall disputes over what is and what is not Generated Information.

Each Party may use another Party's Background Intellectual Property identified in this PTS solely in performance of research and development under the PTS. This PTS does not grant or promise to grant to a Party any option, grant, or license to commercialize, or otherwise use another Party's Background Intellectual Property. Licensing of Background Intellectual Property, if agreed to by the Parties, shall be the subject of separate licensing agreements between the Parties.

Each Party has used reasonable efforts to list all relevant Background Intellectual Property, but Intellectual Property may exist that is not identified. No Party shall be liable to another Party because of any failure to list Background Intellectual Property.

BEA/INL elects to declare an interest in the following Background Intellectual Property: None

Lightbridge elects to declare an interest in the following Background Intellectual Property: See Exhibit A, Mod 0 dated 01/26/2022.

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IN WITNESS WHEREOF, the Parties hereto have executed this Project Task Statement Modification No. 3 by their authorized representatives on the dates shown below.

BATTELLE ENERGY ALLIANCE, LLC:

Name: [REDACTED]

Title [REDACTED]

Date: January 16, 2025

Signature: [REDACTED]

LIGHTBRIDGE CORPORATION:

Name: Andrey Mushakov

Title Exective Vice President, Nuclear Ops.

Date: January 16, 2025

Signature: [REDACTED]