

2. AMENDMENT/MODIFICATION NO. 0477	3. EFFECTIVE DATE See Block 16C	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
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6. ISSUED BY Idaho Operations Office Idaho Operations U.S. Department of Energy Idaho Operations Idaho Falls ID 89415	CODE	892432	7. ADMINISTERED BY (If other than Item 6) Idaho Operations U.S. Department of Energy Idaho Operations 1955 Fremont Avenue MS 1221 Idaho Falls ID 83415	CODE	00701
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8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code) BATTELLE ENERGY ALLIANCE, LLC Attn: Adam Andersen PO BOX 1625 IDAHO FALLS ID 83415	(x)	9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	x	10A. MODIFICATION OF CONTRACT/ORDER NO. DE-AC07-05ID14517
		10B. DATED (SEE ITEM 13) 11/09/2004
CODE 152020629	FACILITY CODE	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended. is not extended.
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)
See Schedule


13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
X	D. OTHER (Specify type of modification and authority) FAR 43.103 (a) (3)

E. IMPORTANT: Contractor is not is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
DUNS Number: 152020629+1234
The purpose of this modification is to incorporate the revised FY2021 Performance Evaluation and Measurement Plan (PEMP) into Part III, Section J, Attachment K (Attached)
All other terms and conditions remain unchanged.
Payment:
OR for Idaho
U.S. Department of Energy
Oak Ridge Financial Service Center
P.O. Box 6017
Oak Ridge TN 37831
Period of Performance: 11/09/2004 to 09/30/2024

Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print) Adam D. Andersen, BEA Contracting Officer	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Joanne Hanners
15B. CONTRACTOR/OFFEROR  Digitally signed by Andersen, Adam D (ANDEAD) Date: 2021.04.06 15:13:39 -06'00'	15C. DATE SIGNED
16B. UNITED STATES OF AMERICA JoAnne Hanners Digitally signed by JoAnne Hanners Date: 2021.04.12 12:37:13 (Signature of Contracting Officer)	16C. DATE SIGNED 04/12/2021

INFORMATION PAGES MODIFICATIONS

The purpose of this modification is to incorporate the following changes made to Section J, Attachment K, *Fiscal Year (FY) 2021 Performance Evaluation and Measurement Plan (PEMP)*, Notable Outcomes.

Notable Outcome 1.1.A – Versatile Test Reactor (VTR)

In FY 2021, INL will lead efforts to develop a versatile fast neutron source facility, including broad engagement with DOE laboratories, industry, and university teaming partners, and submit to DOE documentation required to address the high project risk area of reactor fuel **with respect to supply of plutonium from NNSA surplus plutonium inventory**. The documentation will consist of a fuel acquisition plan (**Pu transfer from NNSA to NE and subsequent processes under NE ownership**), a design options study for the fabrication process and equipment covering the range of **NNSA surplus** plutonium content, isotopes, and impurities, and the corresponding core performance assessment.

Notable Outcome 1.1.C – Fuel Cycle

Complete the international demonstration of recycling LWR fuel with pyrochemical techniques. The United States and the Republic of Korea are nearing the conclusion of the Joint Fuel Cycle Study (JFCS), a jointly funded international collaboration which has accomplished important fuel cycle technology demonstrations. Critical process tests with approximately 20 kilograms of irradiated LWR fuel are being performed at INL in the Hot Fuel Examination Facility. These process tests will demonstrate the recovery of re-usable elements via compact pyrochemical techniques and their re-fabrication into metallic fuel slugs. Testing will also demonstrate re-usable hardware, very low actinide process losses through the use of advanced materials, and the irradiation performance of recycled fuel rodlets. This process testing will be complete by **March August 31, 2021**.

Notable Outcome 1.4.B – NASA Programs

INL is supporting NASA's efforts to develop space nuclear power and propulsion systems that will enable the Dragonfly mission to explore Saturn's moon Titan and the establishment of human outposts, first on the moon and then on to other heavenly bodies, such as Mars. In FY 2021, INL will establish commercial partners to 1) develop a preliminary design of a **fission surface dynamic radioisotope** power system; 2) develop a preliminary design of a nuclear thermal propulsion system and 3) begin fabrication of Multi-Mission Thermal Electric Generators (MMRTGs) for application to future NASA missions – including a customized version of the MMRTG for the Dragonfly mission. INL will also complete Sirius 2b irradiation cycle in TREAT, which supports the goal to perform hot hydrogen testing with full elements at TREAT in the future.