AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

2. AMENDMENT/MODIFICATION NO. 0163
3. EFFECTIVE DATE See Block 16C
4. REQUISITION/PURCHASE REQ. NO. 19SC001473
5. PROJECT NO. (If applicable)

6. ISSUED BY SC Oak Ridge
   U.S. Department of Energy
   ORNL Site Office
   P.O. Box 2008
   Oak Ridge TN 37831

7. ADMINISTERED BY (If other than Item 6) CODE 00516
   U.S. Department of Energy
   ORNL Site Office
   P.O. Box 2008
   Oak Ridge TN 37831

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)
   OAK RIDGE ASSOCIATED UNIVERSITIES, INCORPORATED
   Attn: Angela Holmberg
   P.O. BOX 117
   OAK RIDGE TN 37831

9. AMENDMENT OF SOLICITATION NO. (X)

10. MODIFICATION OF CONTRACT/ORDER NO.
    DE-SC0014664

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

12. ACCOUNTING AND APPROPRIATION DATA (If required)
    See Schedule
    Net Increase: $3,809,013.40

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

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 CLAUSE 970.5232-4 Obligation of Funds and P.L. 95-91

D. OTHER (Specify type of modification and authority)

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

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

The purpose of this modification is to obligate Department of Energy Funding in the amount of $3,809,013.40 TAS: 89 0321. This modification does not obligate any non-appropriated funding.

Pursuant to paragraph (a) of the contract clause in Section I, DEAR 970.5232-4 Obligation of Funds (DEC 2000), the amount presently obligated by the Government with respect to this contract is $1,166,432,051.49

All other terms and conditions remain unchanged.

Delivery Location Code: 000525
Oak Ridge National Laboratory
Continued ...

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)
   Kenneth Lowell Kimbrough

15B. CONTRACTOR/OFFEROR
15C. DATE SIGNED
   08/08/2019

16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)

16B. UNITED STATES OF AMERICA

16C. DATE SIGNED
   Signature on File
   08/08/2019
<table>
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<th>UNIT PRICE (E)</th>
<th>AMOUNT (F)</th>
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Payment:

OR for Oak Ridge/OSTI
U.S. Department of Energy
Oak Ridge Financial Service Center
P.O. Box 6017
Oak Ridge TN 37831