The purpose of this modification is to obligate Department of Energy Funding in the amount of $566,039.71 TAS: 89 0222. This modification does not obligate any non-appropriated funds.

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 $1,061,638,892.25

All other terms and conditions remain unchanged.

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.

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

Kenneth Lowell Kimbrough

16B. UNITED STATES OF AMERICA

Signature on File

16C. DATE SIGNED

05/20/2019
<table>
<thead>
<tr>
<th>ITEM NO. (A)</th>
<th>SUPPLIES/SERVICES (B)</th>
<th>QUANTITY (C)</th>
<th>UNIT (D)</th>
<th>UNIT PRICE (E)</th>
<th>AMOUNT (F)</th>
</tr>
</thead>
</table>

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