

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                       |                   |  |                                                                                                                             |  |                                |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--|-----------------------------------------------------------------------------------------------------------------------------|--|--------------------------------|--|
| <b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                       |                   |  | 1. CONTRACT ID CODE                                                                                                         |  | PAGE OF PAGES                  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                       |                   |  |                                                                                                                             |  | 1      2                       |  |
| 2. AMENDMENT/MODIFICATION NO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                       | 3. EFFECTIVE DATE |  | 4. REQUISITION/PURCHASE REQ. NO.                                                                                            |  | 5. PROJECT NO. (If applicable) |  |
| 0014                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                       | See Block 16C     |  |                                                                                                                             |  |                                |  |
| 6. ISSUED BY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                       | CODE              |  | 7. ADMINISTERED BY (If other than Item 6)                                                                                   |  | CODE                           |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                       | 00701             |  |                                                                                                                             |  | 00701                          |  |
| Idaho Operations<br>U.S. Department of Energy<br>Idaho Operations<br>1955 Fremont Avenue<br>Idaho Falls ID 83415                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                       |                   |  | Idaho Operations<br>U.S. Department of Energy<br>Idaho Operations<br>1955 Fremont Avenue<br>MS 1221<br>Idaho Falls ID 83415 |  |                                |  |
| 8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                       |                   |  | (x)                                                                                                                         |  |                                |  |
| SPECTRA TECH, INC.<br>Attn: Loong Yong<br>132 JEFFERSON COURT<br>OAK RIDGE TN 378304821                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                       |                   |  | 9A. AMENDMENT OF SOLICITATION NO.                                                                                           |  |                                |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                       |                   |  | 9B. DATED (SEE ITEM 11)                                                                                                     |  |                                |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                       |                   |  | 10A. MODIFICATION OF CONTRACT/ORDER NO.<br>DE-EM0003976                                                                     |  |                                |  |
| CODE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                       | FACILITY CODE     |  | 10B. DATED (SEE ITEM 13)                                                                                                    |  |                                |  |
| 005078584                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                       |                   |  | 10/21/2015                                                                                                                  |  |                                |  |
| <b>11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                       |                   |  |                                                                                                                             |  |                                |  |
| <input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended. <input type="checkbox"/> is not extended.<br>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 telegram 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 telegram or letter, provided each telegram or letter 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)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                       |                   |  | Net Increase:                                                                                                               |  | \$103,032.60                   |  |
| <b>13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                       |                   |  |                                                                                                                             |  |                                |  |
| 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 date, 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:                                                                                                                                              |                   |  |                                                                                                                             |  |                                |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | D. OTHER (Specify type of modification and authority)                                                                                                                                                                 |                   |  |                                                                                                                             |  |                                |  |
| X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | B.4 Obligation of Funds                                                                                                                                                                                               |                   |  |                                                                                                                             |  |                                |  |
| <b>E. IMPORTANT:</b> Contractor <input checked="" type="checkbox"/> is not. <input type="checkbox"/> is 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.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                       |                   |  |                                                                                                                             |  |                                |  |
| Tax ID Number: 62-1620591                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                       |                   |  |                                                                                                                             |  |                                |  |
| DUNS Number: 005078584                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                       |                   |  |                                                                                                                             |  |                                |  |
| The purpose of this modification is to Obligate funding to CLIN 0002. Refer to section B.4 incorporated as part of this modification.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                       |                   |  |                                                                                                                             |  |                                |  |
| Payment:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                       |                   |  |                                                                                                                             |  |                                |  |
| FOB: Destination                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                       |                   |  |                                                                                                                             |  |                                |  |
| Period of Performance: 01/04/2016 to 03/31/2021                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                       |                   |  |                                                                                                                             |  |                                |  |
| Change Item 00002 to read as follows (amount shown is the total amount):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                       |                   |  |                                                                                                                             |  |                                |  |
| 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)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                       |                   |  | 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)                                                                  |  |                                |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                       |                   |  | Aaron Nebeker                                                                                                               |  |                                |  |
| 15B. CONTRACTOR/OFFEROR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                       | 15C. DATE SIGNED  |  | 16B. UNITED STATES OF AMERICA                                                                                               |  | 16C. DATE SIGNED               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                       |                   |  | Signature on File                                                                                                           |  | 09/29/2016                     |  |
| (Signature of person authorized to sign)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                       |                   |  | (Signature of Contracting Officer)                                                                                          |  |                                |  |

NAME OF OFFEROR OR CONTRACTOR  
SPECTRA TECH, INC.

| ITEM NO.<br>(A) | SUPPLIES/SERVICES<br>(B)                                                                                                                                                                                                                       | QUANTITY<br>(C) | UNIT<br>(D) | UNIT PRICE<br>(E) | AMOUNT<br>(F) |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|-------------------|---------------|
| 00002           | Base Period (less TMI-2 License Renewal)<br><br>(four years from the end of transition)<br>Line item value is:: \$25,594,713.73<br>Incrementally Funded Amount: \$6,034,671.85<br><br>This modification obligates \$103,032.60 to CLIN<br>0002 |                 |             |                   | 25,594,713.73 |