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| AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT | 1. CONTRACT ID CODE | PAGE OF PAGES 1 5 |
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| 2. AMENDMENT/MODIFICATION NO. 0001 | 3. EFFECTIVE DATE 05/23/08 | 4. REQUISITION/PURCHASE REQ. NO. | 5. PROJECT NO. (If applicable) |
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| 6. ISSUED BY Naval Research Laboratory Code 3220.KK 4555 Overlook Ave. SW Washington, D.C. 20375-5326 | CODE N00173 | 7. ADMINISTERED BY (If other than Item 6) | CODE |
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| 8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code) TO ALL OFFERORS | (X) | 9A. AMENDMENT OF SOLICITATION NO. N00173-08-R-KK04 |
| | X | 9B. DATED (SEE ITEM 11) 05/06/08 |
| | | 10A. MODIFICATION OF CONTRACT/ORDER NO. |
| | | 10B. DATED (SEE ITEM 11) |
| CODE | | 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 2 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 ACKNOWLEDGMENT 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 your 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)

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

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| 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) |

E. IMPORTANT: Contractor is not, 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.)

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

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| 15A. NAME AND TITLE OF SIGNER (Type or print) | 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) | | |
| 15B. CONTRACTOR/OFFEROR | 15C. DATE SIGNED | 16B. UNITED STATES OF AMERICA | 16C. DATE SIGNED |
| _____ (Signature of person authorized to sign) | | _____ (Signature of Contracting Officer) | |

The purpose of this amendment is to answer questions posed by a potential offeror. The questions and answers are as follows:

1. Regarding the Researcher-Ultrafast Laser Spectroscopy labor category, would the Government consider making this a non-key labor category?

Yes. The designation of this position as “key personnel” is deleted from Section H-2 and Attachment No. 3, page 3.

2. Regarding the Research Scientist-Optoelectronic Device Development labor category, would the Government consider making this a non-key labor category?

Yes. The designation of this position as “key personnel” is deleted from Section H-2 and Attachment No. 3, page 3.

3. Regarding the Researcher, Radiation Characterization of Devices and Integrated Circuits labor category, will the Government accept an MS degree and 9 years of experience in lieu of the stated requirements for the position?

Yes.

4. Regarding the Researcher, Radiation Effects Measurements – Solar Cell Materials will the Government accept a BS degree and 5 years of experience in lieu of the stated requirements for the position?

Yes.

5. Regarding Clause H-3, Level of Effort, to allow the contractor to pay for the cost of maintaining a Total Ionizing Dose Irradiation facility, will the Government consider moving the 3000 labor hours for the Researcher-Radiation Characterization of Devices and Integrated Circuits from the On-Site Direct Labor (to be performed at NRL) to the Contractor Facility Direct Labor?

Yes. The total on-site direct labor is decreased to 33,700 labor hours. The contractor facility direct labor is increased to 3,500 labor hours. The total overall labor hours required remains unchanged.

6. The solicitation number stated in Block 3 of the SF 33 is incorrect. Also, is the number of proposal copies required in Block 9 of the SF 33 correct? This conflicts with the number of proposals requested in Section L-12 and L-13.

The solicitation number in Block 3 of the SF 33 is revised to read N00173-08-R-KK04. The number of proposal copies required in Block 9 of the SF 33 is revised to indicate that one original and 6 copies are required.

7. On the Statement of Work, Attachment No. 1, page 2, last paragraph, there are several typos and possibly some missing words. Can the Government clarify this paragraph?

This paragraph should read as follows:

The contractor shall perform failure analysis of the failed devices to determine failure modes and mechanisms. This will entail analyzing lifestest data to calculate median time to failure, activation energies for particular failure mechanisms and standard deviations. The contractor shall also determine sources of error. The contractor shall employ numerous analytical techniques to evaluate changes in physical and chemical properties, thermal profiles, and trapping phenomena related to device aging. These evaluation techniques include: infrared imaging, atomic-force-microscopy, scanning electron microscopy, electron beam induced current detection and deep level transient spectroscopy. Raw data, graphical data and photographs pertinent to these tests shall be provided to NRL scientists.

8. On the Statement of Work, Attachment No. 1, page 3, the first new paragraph, there are several typos and possibly some missing words. Can the Government clarify this paragraph?

This paragraph should read as follows:

Radiation-effects testing of semiconductor devices shall also be occasionally required. The contractor shall irradiate state-of-the-art devices by using pulsed electrons or flash X-rays. The contractor shall evaluate devices before, during, and after irradiation. The contractor shall study heavy ion effects to understand single event and total fluence effects.

9. On the Statement of Work, Attachment No. 1, page 7, paragraph 3.3.1, the next to the last sentence is missing a period and possibly some words as well. Can the Government clarify this sentence?

This sentence should read as follows:

The materials include a wide range of advanced technologies such as SiGe HBTs, carbon nanotube based logic and memory devices, SOI and advanced solar cells, and LT-GaAs.

10. On the Statement of Work, Attachment No. 1, page 10, in the paragraph at the top of the page, there is a missing word (or words) in the next to last sentence. Can the Government clarify this paragraph?

This paragraph should read as follows:

“...The contractor shall develop methods for cleaning and etching the semiconductor surfaces prior to epitaxial growth, film deposition, and direct wafer bonding. The contractor shall use existing Government owned equipment for epitaxial growth, film deposition, bulk crystal growth and bonding of semiconductor substrates. The contractor shall investigate electronic properties of the material. The contractor shall fabricate both homojunction and heterojunction devices. The fabricated electronic devices include low voltage solid-state devices, high voltage power devices, and microwave devices. “

11. On the Statement of Work, Attachment No. 1, page 10, the first paragraph of Section 3.5.1, the sentence beginning with “The materials include a wide range of advanced technologies” contains a garbled ending. Can the Government clarify this paragraph?

This paragraph should read as follows:

“...The materials include a wide range of advanced technologies such as SiGe HBTs, carbon nanotube based logic and memory devices, SOI and advanced solar cells, and .LT-GaAs. The systems include subsystems for space systems. Effects include single event effects, total dose changes (especially including space low-dose-rate effects), displacement damage effects, weapon dose-rate effects and other system effects. “

12. On the Statement of Work, Attachment No. 1, page 12, under Sub-Task 4 in the second sentence, the word “electron” is misspelled. Can the Government clarify this sentence?

This sentence should read as follows:

The contractor shall analyze electron and hole trapping within dielectric/semiconductor structures and model them regarding radiation effects and hardening for various materials and geometries.

13. In Clause H-2 (a), the first sentence states “The contractor agrees to assign to the contract tasks those persons whose resumes were submitted with its proposal as “key personnel.” Clause L-12, paragraph (2), subparagraph (a), the first sentence, states “The proposal must contain resumes which demonstrate that the proposed personnel meet the personnel qualifications...” Would it be acceptable for us to include a

short summary of qualifications for each individual proposed in the Personnel Qualifications Section of our proposal but provide a full resume only for those personnel designated as key?

This is acceptable. However, offerors should keep in mind that the purpose of requesting resumes is to demonstrate that the proposed personnel meet the personnel qualifications. Failure to demonstrate that the proposed personnel meet the personnel qualifications may result in the proposal receiving a lower score during the evaluation of its proposal.