

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE	PAGE OF PAGES 1 3
2. AMENDMENT/MODIFICATION NO. 0001		3. EFFECTIVE DATE 11/18/13	4. REQUISITION/PURCHASE REQ. NO. N/A		5. PROJECT NO. (If applicable)
6. ISSUED BY NASA Shared Services Center (NSSC) Building 1111, C Road Stennis Space Center, MS 39529-6000		CODE	7. ADMINISTERED BY (If other than Item 6)		CODE
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)				(X)	9A. AMENDMENT OF SOLICITATION NO. NNX14SBIRSTTR-GENERAL
					9B. DATED (SEE ITEM 11) 11/14/13
					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 _____ 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.**

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.)

The purpose of this amendment is to:

- 1) revise wording in last paragraph of ARMD description in Section 9.1; and
- 2) replace Subtopic S1.02 Microwave Technologies for Remote Sensing in its entirety.

See Summary of Changes on SF30 continuation page.

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.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Cassandra Williams Lead Contracting Officer	
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA <i>Cassandra Williams</i> (Signature of Contracting Officer)	16C. DATE SIGNED 11/18/2013

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

1) FROM:

In 2012, ARMD started issuing more focused solicitations by rotating subtopics every other year. The reduction in the scope of the solicitation does not imply a change in interest in a given area. For example, in 2012 we solicited proposals for airframe noise reduction and efficiency improvement (through drag reduction). In 2014 we are soliciting proposals for **engine noise and efficiency reductions**. Then in 2015 we plan to return to airframe noise and efficiency improvement.

TO:

In 2012, ARMD started issuing more focused solicitations by rotating subtopics every other year. The reduction in the scope of the solicitation does not imply a change in interest in a given area. For example, in 2012 we solicited proposals for airframe noise reduction and efficiency improvement (through drag reduction). In 2014 we are soliciting proposals for **engine efficiencies and noise reduction**. Then in 2015 we plan to return to airframe noise and efficiency improvement.

2) S1.02 Microwave Technologies for Remote Sensing

Lead Center: GSFC

Participating Center(s): JPL, LaRC

NASA employs active (radar) and passive (radiometer) microwave sensors for a wide range of remote sensing applications (for example, see: <http://www.nap.edu/catalog/11820.html>). These sensors include low frequency (less than 10 MHz) sounders to G-band (160 GHz) radars for measuring precipitation and clouds, for planetary landing, upper atmospheric monitoring, and global snow coverage (SCLP). We are seeking proposals for the development of innovative technologies to support these future radar and radiometer missions and applications. The areas of interest for this call are listed below:

- W-band Solid State Power Amplifier: Freq: 94 GHz +/- 500 MHz, Peak power: > 50 W, Duty cycle: > 20 % , Gain: > 40 dB, Gain flatness within band: < +/- 1 dB, Phase linearity within band: < +/- 1 degree, On/off switching speed: < 1 μ s, Noise figure: < 15 dB, Spurious: < -60 dBc, Harmonic: < -25 dBc
- 640 GHz Polarimeter I, Q, U Channels, Polarimetric measurements to provide microphysical parameterization of ice clouds applicable to ACE

- Broadband low noise cryogenic amplifier operating between 1 and 6 GHz
- G-band (140-220 GHz) Components: 3-port strip line/CPW based switch (20 dB isolation, 1 dB loss, 1 kHz switching frequency), G-band (140-220 GHz) Components: Isolator with isolation > 15 dB, Insertion loss < 1.2 dB
- High power Solid-State Ka-band Transmitter: $P_{sat} > 200W$, Duty Cycle > 20%, DC to RF Efficiency > 30%, Gain > 50 dB
- Very high-efficiency VHF Power Amplifier for CubeSats: Center frequency range: 40MHz to 100MHz, Fractional bandwidth: 20%, $P_{sat} > 25W$, Gain > 40 dB, Efficiency > 90%
- Technology for low-power, rad-tolerant broad band spectrometer back ends for microwave radiometers. Includes: digitizers with 20 Gbps, 20 GHz bandwidth, 4 or more EOB and a simple interface to FPGA; ASIC implementations of polyphase spectrometer digital signal processing with ~1 watt/GHz;
- Back ends for microwave radiometers and sounders including compact low power RFI mitigation hardware for upgrading existing systems and low-power, low-mass filter back ends with >5 GHz spectral coverage, 200 MHz resolution, and less than one watt.

End Summary of Changes