

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF PAGES 1 3
2. AMENDMENT/MODIFICATION NO. 001	3. EFFECTIVE DATE See Block 16C	4. REQUISITION/PURCHASE REQ. NO. 4200417610	5. PROJECT NO. (If applicable)	
6. ISSUED BY NASA/Kennedy Space Center Office of Procurement, OP-ES Andrew Dennis Kennedy Space Center, FL 32899	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. NNK12417610R	9B. DATED (SEE ITEM 11) January 25, 2012
			10A. MODIFICATION OF CONTRACT/ORDER NO.	10B. DATED (SEE ITEM 13)
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 1 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.
<input type="checkbox"/>	
<input type="checkbox"/>	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).
<input type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
<input type="checkbox"/>	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 document the answers provided to questions received on NNK12417610R.

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) Andrew S. Dennis Contracting Officer		
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED 2/13/2012
(Signature of person authorized to sign)		(Signature of Contracting Officer)	

The Government's responses to questions submitted on the Solicitation are contained within this amendment. The responses to questions shall not be construed as altering the requirements of the RFP.

1. The following received questions and the Government provided answers are shown below:

Question 1: Will NASA accept a system not based on a commercial cryocooler?

Answer 1: NASA is looking for proven capability, not a technology development effort. With this in mind, an alternative to a full commercial cryocooler may be acceptable if it can be proven that the individual system components have a commercial heritage of use in similar systems in a laboratory or industrial setting and are capable of meeting our specifications, including capacity, temperature, and run time of 5000 continuous hours. A detailed analysis shall be provided as part of the technical proposal submittal to prove the commercial heritage components can be combined to meet the 160 W/W specification.

Question 2: Where and how (electronically, hardcopy), do we submit our proposal?

Answer 2: Proposals shall be submitted to the Contracting Officer, Mr. Andrew Dennis, National Aeronautics and Space Administration, Kennedy Space Center, Mail Code: OP-ES, Kennedy Space Center, Florida 32899. Proposals may be submitted by mail or electronic submission to Andrew.S.Dennis@nasa.gov.

Question 3: Instruction to offeror, Page 21: Welders Certifications and Procedures: As the manufacturing (and welding) of the ASME parts are subcontracted, to a vendor not yet selected, is it acceptable that these procedures and certifications be provided during order stage?

Answer 3: The intention of this submittal is for the Government to verify that the offeror has the appropriate level of technical expertise (be it through the prime or subcontractor support). If the offeror intends to subcontract the manufacturing and welding, the subcontractor would need to be identified and copies of the required certifications and procedures be provided with the proposal in accordance with the Solicitation, Instructions to Offeror.

Question 4: Statement of Work, Page 3, Performance Requirements: Do you have a value/indication of the pressure drop of the helium loop inside the IRAS Tank?

Answer 4: The IRAS tank HX design is not final but right now it is approximately 100 feet of ¾" dia copper tubing , bayonet couplings and a couple of short flexhoses. The total estimated pressure drop is across the KSC supplied lines is 2 psi at maximum flow, but this value may change slightly based on the refrigeration system design"

Question 5: Statement of Work, Page 3, Performance Requirements: The requirement states a max. Helium pressure at 40 bar. Does this mean that a lower maximum allowable working pressure (20-30 bar) is also allowed, provided sufficient flow is available at that pressure to ensure the heat transport and requested delta T?

Answer 5: Yes, 40 bar is a maximum. There is no minimum, provided the capacity and temperature specifications are met.

Question 6: Statement of Work, Page 4, Interface Requirements: Please confirm the power supply is 60 HZ.

Answer 6: Power supply is 60 Hz.

Question 7: Statement of Work, Page 6, Fabrication and Verification Requirements: Please confirm that the (wetted) material of the heat exchanger inside the cryocooler being (oxygen free), Copper is acceptable.

Answer 7: Oxygen free copper is an acceptable material for use in the cryocooler.

2. The proposal submission due date is not extended.
3. All other terms and conditions of NNK12417610R remain unchanged.