AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT I D CODE	PAGE OF PAGES	
OP-ES	1	13

2. AMENDMENT/MOD NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO
7	10/26/09		98600

CODE	OP-ES	7. ADMINISTERED BY	CODE	OP-ES
NASA Procurement Office, OP-ES John F. Kennedy Space Center Kennedy Space Center, FL 32899		Same as Block 6		

8. NAME AND ADDRESS OF CONTRACTOR *(No. Street, County, State and ZIP Code)*	(9)	9A. AMENDMENT OF SOLICITATION NO NNK09289054R
	[X]	9B. DATED *(SEE ITEM 11)* 7/20/09
	(10)	10A. MOD. OF CONTRACT/ORDER No
CODE FACILITY CODE	[ ]	10B. DATED *(SEE ITEM 13)*

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 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 one (1) copy 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 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)*

Financial Management

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

- [ ] 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)*

IMPORTANT: Contractor (is or is not) 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.)*

Construction of Platforms in High Bay 3 of the Vehicle Assembly Building

See next pages for continuation of Block 14.

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
15B. CONTRACTOR/OFFEROR	16B. UNITED STATES OF AMERICA 16C. DATE SIGNED
(Signature of person authorized to sign)	*(Signature Of Contracting Officer)*

SF 30 Continuation Page

The purpose of this amendment is to answer Bidder Questions, amend contract specifications, and provide informational use only drawings.

Section 1 Question and Answers

1. **REFERENCE:** Specification 26.08.00 – Apparatus Electromagnetic Radiation Testing

   QUESTION: **Does the referenced specification apply to construction tools and test equipment (i.e., welding machines) or does the referenced specification only apply to permanently installed electrical equipment?**

   ANSWER: ***This reference only applies to permanently installed electrical equipment.***

2. **REFERENCE:** Specification 26.08.00 – Apparatus Electromagnetic Radiation Testing

   QUESTION: **Part 1.3 of the referenced specification states "electronic or electric equipment shall not emit radiation in excess of this specified electromagnetic environment at a distance of 1.0 meters."**

   Is this to mean the above stated requirement pertains to a distance of 1.0 meters or less?

   ANSWER: ***The referenced sentence means that the test measurements to prove the equipment meets the requirement will be taken at 1.0 meters from the equipment. A measurement taken at less than one meter that does not exceed the requirement is also acceptable.***

3. **REFERENCE:** Drawing S-002 (10C00003), General Notes: VAB Main Steel Reinforcement and Connections, Notes 1 and 2.

   QUESTION: **Per referenced notes, connections welded to the existing VAB main steel framing and existing VAB columns shall be installed prior to the installation of the new platforms.**

It is our expectation to work from the bottom up. We expect to be able to perform the connections to the existing framing and columns on upper level while new installation work is occurring at lower levels on which the connections to existing structural steel have been completed.

Please confirm that installation of the new platforms and other work on each level may proceed once the connections to the existing framing and columns are completed on that same level.

ANSWER: ***The reinforcement of the VAB indicated on sheets S-701 to S-704 is required due to existing loads in the VAB structure. It is important to keep vertical loads on the VAB structure at a minimum when welding due to reduced capacity concerns when the columns are subjected to welding operations. This work must be performed when the existing extensible platforms have been removed and before the new platforms are installed.***

New platform connections welded directly to the existing VAB columns, the WT's and Plates shown on sheets S-207, S-513, S-514 and S-515, are a similar concern.

4. **REFERENCE:** Drawing S-514 (10C00003), detail Brace Bottom Plate

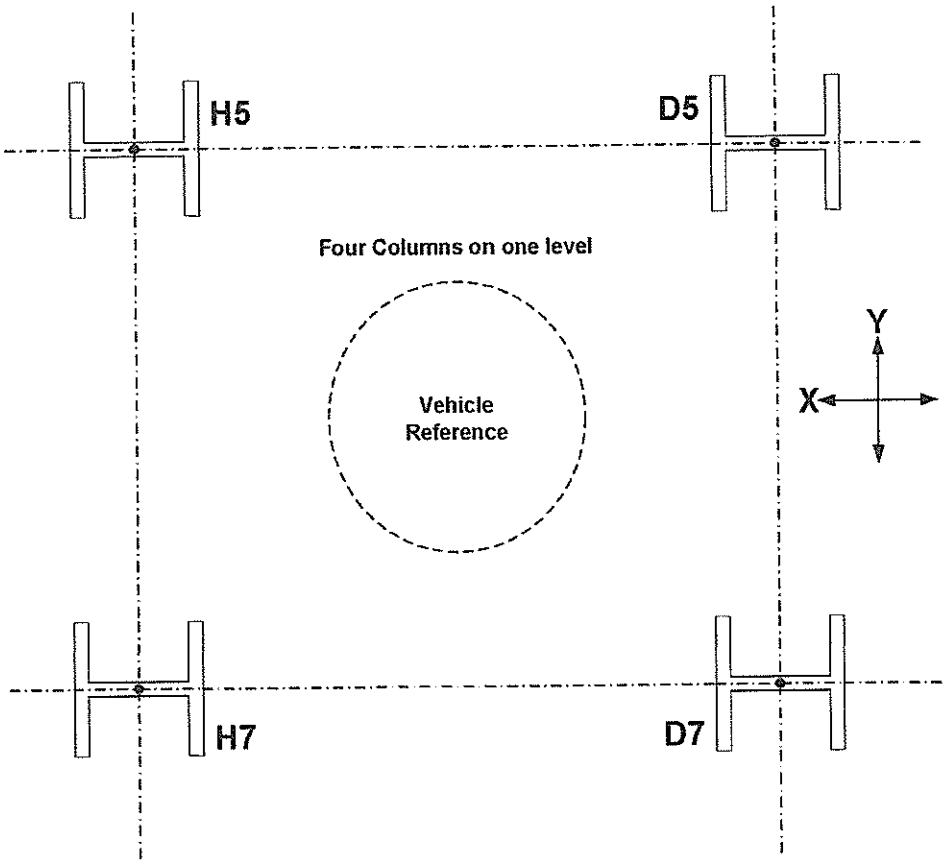
QUESTION: **As illustrated in the attached sketch and as depicted in Detail RC on S-514 of the structural drawings to make the proposed knife connections work each of the four existing columns H5, D5, H7, and D7 must be in a highly accurate location (+/- 1/16") in relation to the geometric reference to the other three columns on that level and be very square in configuration. This set of four columns on each level then in turn relies upon the same four points in each of the other ten levels to not only be geometrically the same but in line at each of the four points at all eleven levels. It is understood that the intent of the slotted holes as depicted in details RA and RD on S-514 of the structural drawings is to account for such existing anomalies but even if one of the existing columns is turned slightly somewhere in its vertical length a minimum of 1 degree this represents 1.36 feet off center at the next column from hitting centerline the way it is depicted. The typical variations in steel structures that are allowable under applicable industry standards will be greater than this and will create much greater problems installing the welded knife connections as depicted. This does not take into account if the four columns H5, D5, H7, and D7 are any geometric shape other than a square (parallelogram etc). This also does not take into account the two existing columns near the H3, D3, H9, and D9 column lines and there geometry in relation to the existing columns H5, D5, H7, and D7. Is there an "As-Built" of columns H5, D5, H7, D7, columns near H3, D3, H9, and D9 layout? Is there a detail that can be released to the prospective Contractors to estimate that will allow for the actual physical geometry of columns H5, D5, H7, D7, columns near H3, D3, H9, and D9?**

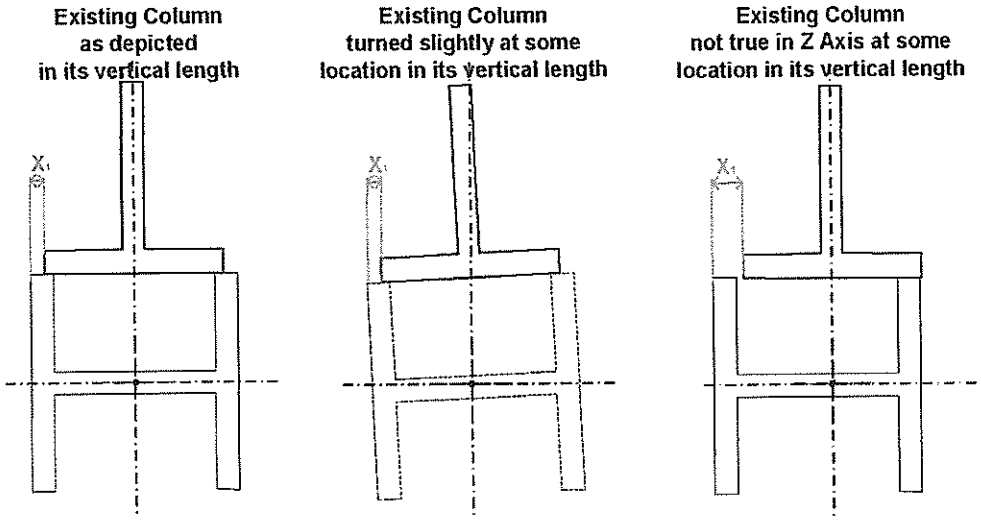
ANSWER: ***At columns H5,D5,H7 and D7 in addition to the horizontally slotted bolt holes in the welded beam end plate, there are vertical minimum 1" thick plate spacers between the angles and the welded beam end plate that are required for the RC and RD connection installation. These spacers can be made wedge shaped to account for possible twist of the columns. Wedge shaped washers will also be needed for the bolts.***

As an alternative or in case of a dramatic twist in the columns, welded spacers may be provided between the WT and the existing columns at one edge of the WT.

Near columns H3, D3, H9 and D9 the existing vertical members with existing bolt holes at 6 inches O.C. at detail RZ we have provided long horizontally slotted bolt holes in the support bracket and in the welded beam base plate. The slotted holes in the base plate are perpendicular to those in the bracket.

We are not aware of any existing as-built or survey that would provide the level of detail needed to determine the location of all of the column flange edges for all of the conditions. See Sheet S-001 "General Notes: Structural" Note 4.





5. **REFERENCE:** Drawing E-200, Note C; drawing E-602 (10C00003)

QUESTION: **The receptacle called for in Note C on drawing E-200 is to be fed from Substation SS810-5D. This feed is also shown on the E-602 one-line. The substation is not shown on the plan drawings. Please clarify the location.**

ANSWER: As ***is indicated on E-602, substation 810 is located on Floor 10, Tower F. The location of substation 810 has been added to sheet E-205 in Revision A of the drawing.***

6. **REFERENCE:** Specification 21 13 00.00 98, part 2.8 Class I Standpipe (10C00008)

QUESTION: **Specification requires contractor compliance with NFPA-14 and hydraulically proving the system performance of standpipe discharge pressure of 100 PSI. The drawings do not depict the existing water supply type, the fire pump location, or the existing pipe routing and sizes to the connection points. Without this information it is impossible to determine what size piping is required, if pressure reducing devices are required, or even if the system can achieve the specified performance. Will complete existing condition drawings be available for the bid process?**

ANSWER: *Yes; the drawings needed to develop hydraulic calculations from the fire pumps to the platforms are 80K50291, 80K50638, 203-100 Volume 18, and 203-665. These drawings are provided for reference only.*

7. **REFERENCE:** Specification 21 13 00.00 98, part 2.8 Class I Standpipe (10C00008)

QUESTION: **Specification requires contractor compliance with NFPA-14 and hydraulically proving the system performance of standpipe discharge pressure of 100 PSI. Where pressure reducing valves are required, a means of testing needs to be provided. Are the existing drain connections shown on the drawings to be tied-in sufficient for the volume and pressure required at the full flow discharge testing of the fire department valves?**

ANSWER: ***Existing drains shown are sufficient. If field conditions are revealed during construction that indicate they are not in a condition to be reused notify the*** *Contracting Officer.*

8. **REFERENCE:** Specification 21 13 26.00 40, part 1.4 (10C00005)

QUESTION: **Specification requires hydraulic calculations to verify discharge densities. The drawings do not depict the existing water supply type, the fire pump location, or the existing pipe routing and sizes to the connection points. Without this information it is impossible to determine what size piping is required, if pressure reducing devices are required, or even if the system can**

achieve the specified performance. Will complete existing condition drawings be available for the bid process?

ANSWER: ***Yes; the drawings needed to develop hydraulic calculations from the fire pumps to the platforms are 80K50291, 80K50638, 203-100 Volume 18, and 203-665. These drawings are provided for reference only.***

9. **REFERENCE:** Specification 21 13 26.00 40, part 1.4 (10C00005)

QUESTION: **Specification requires each deluge system be considered a separate sprinkler system with individual automatic heat responsive system. Is the term "each deluge system" considered the quad valve assembly, or are the quad valves considered two or four systems with individual heat responsive systems?**

ANSWER: ***The term "each deluge system" in this part refers to the quad valve assembly. The quad valves are not considered two or four systems.***

10. **REFERENCE:** Specification 21 13 26.00 40, part 2.3 (10C00005)

QUESTION: **Detection systems are addressed as being provided under division 28 31 00.01 98. Does this division 28 detection system also achieve the requirement for the division 21 detection system? Or is a separate heat sensitive system required in addition to the detection system provided under division 28?**

ANSWER: ***No separate heat sensitive systems are required other than those provided under Division 28. Revision A of the specification section 21 12 26.0040 part 2.3 refers to section 28. 31 00.01 98 for the detection system.***

11. **REFERENCE:** Specification 21 13 26.00 40, part 2.2.6 (10C00005)

QUESTION: **Per referenced specification, the Sprinkler Discharge area is the entire platform surface. The quad valve will release water to more than one platform. Do hydraulic calculations need to prove all platforms served by that quad valve?**

ANSWER: ***Yes, The hydraulic calculations need to prove the capability of providing the required coverage to the Sprinkler Discharge area of all platforms served by one quad valve, as indicated on the plans with hatching. Only one quad valve will open on a fire event.***

12. **REFERENCE:** Specification 21 13 26.00 40, part 2.2.6 (10C00005)

QUESTION: **Will hydraulic calculations need to prove more than one quad valve can be opened at any time?**

ANSWER: ***No, Hydraulic calculations need to prove the demand required for each quad valve separately with only one quad valve opening during a fire event. The calculations will need to prove that any one of the quad valves can release and meet the coverage requirements while the other quad valves are closed. This will require the demand of each quad valve to be tested/calculated separately.***

13. **REFERENCE:** Specification 21 13 26.00 40, parts 1.4, 2.2.4 and 2.2.5 (10C00005)

QUESTION: **These sections in general indicate the contractor must provide specified density of .25 GPM/ over the entire platform; discharge shall not exceed 120 percent of the design density and discharge shall not exceed 20 ft per second velocity in the piping. The drawings do not depict the existing water supply type, the fire pump location, or the existing pipe routing and sizes to the connection points. Without this information it is impossible to determine what size piping is required, if pressure reducing devices are required, or even if the system can achieve the specified performance. Will complete existing condition drawings be available for the bid process?**

ANSWER: ***Yes; the drawings needed to develop hydraulic calculations from the fire pumps to the platforms are 80K50291, 80K50638, 203-100 Volume 18, and 203-665. These drawings are provided for reference only.***

14. **REFERENCE:** Specification 21 13 26.00 40, parts 3.10.1 and 3.10.2 (10C00005)

QUESTION: **Will preliminary or formal described "full flow testing" from individual systems be required to discharge water from sprinklers onto platforms or will testing be through the drain manifold to prove pressure and flow is available at the quad valve? If the above answer is water is to discharge to drain, have the existing drains indicated for tie-in been determined adequate to receive the volume and pressure of the system discharge?**

ANSWER: ***The sprinklers will discharge but not to the platform. The intent is to test a full flow from each quad valve. Water will need to be collected and routed to drains to prevent damage to newly installed equipment. Note added in Revision A to sheet FP-001.***

15. **REFERENCE:** Specification 21 13 26.00 40, parts 3.3 and 3.8; specification 21 13 00.00 98, part 3.7

QUESTION: **The referenced specifications require all sprinkler and standpipe system piping, valves and appurtenances to be painted red. Please confirm the**

manufacturer's standard coating is acceptable in place of field painting the sprinkler material and devices.

ANSWER: *Yes, refer to 21 13 26.00 40 – 2.9 Painting.*

16. **REFERENCE:** Specification Section 41 22 20 (pg. 742) article 3.3 Shop Assembly and Testing

QUESTION: **Can this testing be done on site at the lay-down/assembly area?**

ANSWER: *Yes, the testing may be done in the laydown area. However, the contractor must provide full facilities and support to enable immediate troubleshooting and modifications, if required, in support of the testing. Facilities and support may consist of but not be limited to the following: ironworkers, electricians, machinists, manufacturer's representatives for mechanisms and controls, cranes and rigging to allow structural adjustments and modifications. The intent of shop testing is to minimize lost time and costs, by testing the first article.*

17. **REFERENCE:** Drawing S-511, detail AK - 100 ASCE Crane Rail (10C00003)

QUESTION: **We have been told that the 100# ASCE crane rail is no longer produced. The manufacturers are quoting a 100# AREA rail. Please reference the attached rail profiles as they are slightly different. We have gone to three different sources and have been told the same thing. Will this create any problems with the as shown travel wheel system?**
Also, this crane rail is not produced domestically; it is produced in Luxemburg, Germany (Arcelor/Mattel).

ANSWER: *ASCE 85# rail shall be used and additional thickness spacers shall be provided at the travel wheel connections. See revised rail in Revision A of the drawing.*

18. **REFERENCE:** Drawings M-002 and M-302

QUESTION: **Drawing M-002, Specific Note B indicates number of quick disconnects air outlets on each branch, which on the drawing indicates 2 on each branch.**

On drawing M-302, the compressed air panel in the lower left, flag note H, indicates quick disconnect at this point.
Is this one of the two mentioned on Drawing M-002 above or is this one separate from the other location with two QD's, which will make a total of 3 QD'?

ANSWER: ***Yes, the quick disconnect at the air panel is one of the two quick disconnects indicated at each branch on sheet M-002. See clarification in Revision A of the drawing.***

19. **REFERENCE:** Drawings M-002 and M-301

QUESTION: **On each one of these drawings at the bottom of each compressed air riser, it shows a liquid drainer, then a safewaste line running down and tying into an existing 4'' industrial waste pipe. Need to know what kind of pipe it is. Will outage be required to make the tie-in? Will it have to be a hot tap?**

ANSWER: ***Refer to Table I type B pipe in section 22 00 00 for acceptable pipe materials of drain waste and vent piping. No outage or hot tap is anticipated to make the tie-in. The existing drain only serves high bay 3 platforms.***

20. **REFERENCE:** Electrical Drawings for package 10C00007

QUESTION: **Please clarify if the intent is for the conduit in the new stairwells to be run exposed or concealed.**

ANSWER: ***Conduit in the Life Safety Egress Stair Tower may be run exposed.***

21. **REFERENCE:** Drawing E-213 (10C00003)

QUESTION: **A C&T Station Enclosure is shown on drawing E-213 as well as other locations. Please issue a detail of this enclosure so we understand what is to be provided.**

ANSWER: ***The enclosure is specified by Note E on drawing E-605.***

22. **REFERENCE:** Drawing E-502, Note H (10C00003)

QUESTION: **Note H on E-502 states to run the conduit from PAWS Head end equipment in 1D4. We do not see room 1D4 on the plan drawings. Please clarify the location.**

Detail AH includes a reference to note H on a conduit running horizontally in front of the cable trays. We do not see this conduit on the riser shown on drawing E-604. Please clarify if this conduit is required and if so where it is to run from and to.

ANSWER: ***Refer to drawing, E-202, E-203and E-502 for relative distance and conduit routing from Tower D Room 1D4 to Tower E. Conduit shall be routed from the Tower E 10th floor PTC through the cable tray chase to the 3rd floor and then along the existing cable tray shown on E-202 and E-203 to the cable tray chase in***

Tower D and down the chase to the first floor and then to Room 1D4 which is located approximately 57' from the transfer aisle. Clarification is provided in Revision A. See sheet E-502 revised flag note H.

23. **REFERENCE:** Drawing E-634 (10C00003)

QUESTION: **Panel XNH3PC circuit 7 is for a Winch Disconnect. Please clarify the location of the Winch Disconnect Switch and confirm if it is to be a NEMA 1 Non-fusible.**

ANSWER: *Circuit 7 on Panel XNH3PC has been corrected in Revision A of the drawing to be a Spare 20 Amp 1 Pole circuit breaker.*

24. **REFERENCE:** Section J.1.C.18, part 3 (Perimeter Access)

QUESTION: **Referenced section requires an Access Control Monitor to staff a Safety Badge Board during "hazardous operations".**

Please define "hazardous operations". Does this mean when an orbiter or SRB segment is moving in or out of another VAB bay?

ANSWER: *The VAB has many shuttle operations and functions that will be dealt with as hazardous operations. VAB hazardous operations that include control of HB3, and/or Towers D &E include but may not be limited to hoisting Solid Rocket Booster (SRB) segments, exposed propellant operations, SRB propellant grain inspection, SRB igniter installation or removal, External Tank hoisting and mating/demating, Orbiter hoisting and mating/demating. These and other operations may also require closure or partial closure of the transfer aisle and closing of VAB Transfer Aisle doors and High Bay doors. The daily VAB scheduling and coordination meeting will provide notice and schedules for these and other VAB operations.*

25. **REFERENCE:** Specification 26.08.00, part 3.1 – Apparatus Electromagnetic Radiation Testing

QUESTION: **Part 3.1 of referenced specification requires the apparatus electromagnetic radiation testing to occur off of the Kennedy Space center.**

Would NASA allow the electrical equipment to be tested onsite at the Kennedy Space Center at the VAB construction site lay-down area? This would allow the equipment to be tested more easily and will have cost savings implications.

ANSWER: *Yes, testing in the laydown area by a qualified laboratory performed in accordance with the specification is acceptable. Equipment will not be accepted or paid for prior to acceptable testing being performed, reviewed, and approved.*

QUESTION: Would NASA accept a letter of certification from each of the applicable equipment manufacturer's stating the specific piece of equipment has been tested and meets the criteria within specification 26.08.00?

ANSWER: ***No, a Certification letter alone is not acceptable. The Contractor must provide a certification and the test results for review and approval.***

26. **REFERENCE:** Section H Special Contract Requirements: Liquidated Damages

QUESTION: Please clarify the specific Liquidated Damages applicable to this project as there is no reference within the documents? Please provide a specific Liquidate Damages clause (i.e. FAR 52.211-12) as this will allow our Surety to evaluate the financial risk of actual damages due to extended delays and provide the required bonds. We understand the FAR52.211-12 Clause to read as follows:

(a) If the Contractor fails to complete the work within the time frame specified in F.7 Period of Performance, the Contractor shall pay liquidated damages to NASA in the amount of $_____for each calendar day of delay for the first _____days and $_____for each calendar day thereafter until work is completed.
(b) If NASA terminates the Contractors right to proceed per FAR 52.249-10, liquidated damages will continue to accrue until work is completed. These liquidated damages are in addition to excess costs of repurchase under the termination clause.

ANSWER: ***As stated in Amendment 2, the proposed contract contains no provision for liquidated damages.***

Section 2 Amend RFP, Specificaton 10C00005

REFERENCE: RFP, Page 7, Section C.2, CONTRACT DRAWINGS, MAPS AND SPECIFICATIONS, Paragraph (b), Addenda to Specifications and Drawings

SPECIFICATION 10C00005, section 26 08 00, part 3.1 as follows:

Delete the first sentence from the first paragraph.

Specification 10C00005, section 26 08 00, part 3.1; in the second paragraph change the sentence as follows:

From:" Equipment shall be shipped to KSC only after successful completion of required tests based on testing criteria, and evaluation of the test results have been completed."

To: "Equipment shall be installed only after successful completion of required tests based on testing criteria, and evaluation of the test results has been completed."

Specification 10C00005, section 26 08 00, part 3.2; change the sentence as follows:

From: "Final acceptance of the system is contingent upon satisfactory completion of the factory acceptance tests."
To: "Final acceptance of the system is contingent upon satisfactory completion of the acceptance tests."

Specification 10C00005, section 26 08 00, part 3.3; change the first sentence as follows:

From: "When factory test results indicate..."
To: When test results indicate..."

Section 3 Provide Informational Use Only Drawings

The following drawings are provided for informational use only and are not part of the specifications and drawings for this project:

80K50638, 80K50291, 203-100V18, and 203-663