

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT I D CODE	PAGE OF PAGES	
				1	3
2. AMENDMENT/MOD NO. 4	3. EFFECTIVE DATE 7/27/2011	4. REQUISITION/PURCHASE REQ. NO. 4200373396		5. PROJECT NO.	
6. ISSUED BY NASA Ames Research Center Acquisition Division Mailstop 213-13 Moffett Field, CA 94035-1000		CODE JAC	7. ADMINISTERED BY Ken Kitahara (650) 604-3717		CODE JAC
8. NAME AND ADDRESS OF CONTRACTOR (No. Street, County, State and ZIP Code) ALL OFFERORS			(9)	9A. AMENDMENT OF SOLICITATION NO NNA1173396R	
			<input checked="" type="checkbox"/>	9B. DATED (SEE ITEM 11) 7/8/11	
			(10)	10A. MOD. OF CONTRACT/ORDER No	
CODE			<input type="checkbox"/>	10B. DATED (SEE ITEM 13)	
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 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) N/A <i>Financial Management</i>					
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.					
<input type="checkbox"/> 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"/> 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: FAR Clause 52.243-4, Changes					
<input type="checkbox"/> D. OTHER (Specify type of modification and authority)					
IMPORTANT: Contractor IS required to sign this document and return 5 copies to the issuing office.					
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) Subject: Steam Vacuum System NOx Emission Reduction System This amendment is issued to provide amendments for the specifications and drawings and to provide answers to contractor questions. In addition, the proposal due date is extended an additional day.					
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 KENNETH KITAHARA		
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)		15C. DATE SIGNED	16B. UNITED STATES OF AMERICA (Signature Of Contracting Officer)	16C. DATE SIGNED 7/27/11	
NSN 7540-01-152-8070 PREVIOUS EDITION UNUSABLE					
30-105					
STANDARD FORM 30 (REV. 10-83) ES Prescribed by GSA FAR (48 CFR)					

Accordingly,

1. Section J, List of Documents, Exhibits, and Other Attachments, J.1, List of Attachments, is revised as shown in Attachment 1.
2. Attachment J-1, Amendment, Addendum to SPECIFICATION NO. K90032, Steam Vacuum System NOx Emission Reduction System, is revised as shown under Additions/Revisions to Construction Specification, 07-26-2011 (Attachment 2).
3. Attachment J-2 Amendment is incorporated into Drawings for the Steam Vacuum System NOx Emission Reduction System, A334A-5903 (Attachment 3).
4. Questions and Answers are provided as Attachment 4.
5. The due date for the receipt of proposals is extended by one day, from Aug. 8, 2011 to Aug. 9, 2011. The time and place for the submission of proposals remain unchanged.

All other terms and conditions remain unchanged and in full force and effect.

NOTHING FOLLOWS
END OF AMENDMENT NUMBER FOUR (4)

SECTION J
LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS

J.1 LIST OF ATTACHMENTS

(a) The following documents are attached hereto and made a part of this contract:

ATTACHMENT	DESCRIPTION	DATE	# OF PAGES
J-1	Specification No. K90032, entitled "Steam Vacuum System NOx Emission Reduction System"	6/4/10	311
J-1 Addendum	Amendment to Specification No. K90032	5/17/11	1
J-2	Drawings for the Steam Vacuum System NOx Emission Reduction System, A334A-5903	12/13/10	32
J-2 Addendum	Amendment to Drawings for the Steam Vacuum System NOx Emission Reduction System, A334A-5903	7/26/11	1
J-3	Scheduled Testing	TBD	TBD
	Test Plan	6/16/11	5
J-4	Davis Bacon Wage Determination CA100029, Modification 27	Rev. 7/01/11	44
J-5	Contractor's Safety and Health Plan *	TBD	TBD
J-7	Contractor's Small Business Subcontracting Plan * (Contractor Generated)	TBD	TBD
J-8	Small Business Subcontracting Plan Goals*	TBD	TBD

* To be incorporated at time of award or by subsequent modification. The plan shall be updated subsequent to contract award as required under the terms and conditions of the contract.

(b) The following documents, exhibits, and attachments are included only in the solicitation.

ATTACHMENT	DESCRIPTION	DATE	# OF PAGES
J-9	Past Performance Questionnaire	NA	5
J-10	Bid Bond (PDF)	Rev. 1-90	2
J-11	Price Work Sheet	NA	1
J-12	KRED Form	NA	1
J-13	ACH Vendor/Miscellaneous Payment Enrollment Form	NA	1

(End of clause)

[END OF SECTION]

ATTACHMENT J-1 AMENDMENT

Addendum to SPECIFICATION NO. K90032, Steam Vacuum System NOx Emission Reduction System, is provided:

**SVS NOx Emission Reduction System Specifications Amendment
05-17-2011**

Page 3 Section 01 33 00

1.1.1 Submittal description (add the following)

All construction documents such as submittals, Requests For Information (RFIs), daily reports, field clarifications, schedules, and change orders, shall be submitted and approved electronically using NASA's SharePoint Portal. Adobe Digital signatures shall be the legal equivalent to pen and ink signatures. A free version of Adobe Acrobat reader will suffice for all reviewers and most readers. A recent version of Adobe Acrobat Pro, compatible with Adobe Acrobat Pro Version 9, is required to upload submittals and RFIs.

Page 12 Section 01 33 00

1.6.1 through 1.6.7 (add the following)

All submittals shall be in electronic format submitted through NASA's SharePoint Portal.

Page 5 Section 23 81 48

3.1 Instructing operating personnel (replace with the following)

Upon completion of work and at time designated by contracting officer , provide services of manufacturer's technical representative for period of not less than one 4-hour working day for instruction of government operating personnel in proper operation and maintenance of equipment.

Page 10 Section 44 10 00

1.8.1 b (add the following)

A stack analysis shall be performed to model the exposure levels.

Page 12 Section 44 10 00

1.10 Emissions Monitoring

a. (add the following)

Currently BAAQMD has approved the Horiba model –VA-3000 CEMS.

Page 24 44 10 00

3.5.1 System performance test (add the following)

Electricity, water and test conditions shall be furnished by the government.

**Additions/Revisions to Construction Specification
07-26-2011**

Section 01 11 00, para. 1.2.1b is revised as follows (revision in italic):

Install SVS Nox Emission Reduction System with associated columns, pumps, piping *and secondary containment as required.*

Section 44 10 00, para. 1.8.1w is revised as follows:

All new *storage equipment and facilities* shall meet current Santa Clara County Ordinance...

	Maximum		Typical		Minimum	
	Current	Future	Current	Future	Current	Future
Arc Jet Test Days per Year	160	160	160	160	120	120
Total SVS Operating Time (standby plus testing), hrs/day	8	8	6	6	2	2
Frequency of Tests	1 per day/3 per day 5 days per week	1 per day 3 days per week	4 per day 5 days per week	3 per day 3 days per week	2 per day 2 days per week	2 per day 2 days per week
Duration of Tests	1 hr/15 min	30 min	15 min	15 min	5 min	5 min
Inflow Conditions						
Test Gas Mass Flow, kg/sec	2.1	4.5	0.07-0.7	0.5-2.0	0.02	0.2-0.4
NOx Concentration, ppmv	63,000	63,000	30,000	30,000	1,000	1,000
NO Mass Flow, kg/sec	0.137	0.294	0.00218-0.0218	0.0155-0.0621	0.0000207	0.000207-0.000414
Added Steam, kg/sec	3.15	6.75	0.105-1.05	0.75-3.0	0.03	0.3-0.6
Pressure, bar	1.005	1.005	1.005	1.005	1.005	1.005
Temperature, °F (°C)	195 (90.6)	195 (90.6)	195 (90.6)	195 (90.6)	195 (90.6)	195 (90.6)
Outflow Conditions						
Treated Gas NOx	<4.54 kg/day	<4.54 kg/day	<4.54 kg/day	<4.54 kg/day	<4.54 kg/day	<4.54 kg/day
Spent Scrubber Solutions	<5,000 mg/L TDS	<5,000 mg/L TDS	<5,000 mg/L TDS	<5,000 mg/L TDS	<5,000 mg/L TDS	<5,000 mg/L TDS
Note 1: The test gas is air. Use mass composition 76.85% N ₂ /Inerts and 23.15% O ₂ . Use molar composition 79.05% N ₂ /Inerts and 20.95% O ₂ . Use average molecular weight 28.97 kg/kg-mole.						
Note 2: There is no net change in molar flow in the arc jet – N ₂ + O ₂ ⇌ 2NO						
Note 3: The test gas exiting the arc jet is dry. Passing through the SVS, the test gas becomes saturated with water vapor.						
Note 4: BACT trigger point is 4.54 kg NOx per day, prefer to stay below the trigger point.						
Note 5: Spent scrubber solutions discharge to city sewer, must be <5,000 mg/L TDS						

(End of Attachment J-1 Amendment)

ATTACHMENT J-2 AMENDMENT

**Project Drawings
07-26-2011**

G1- Add reference drawings "A334A-7201-S1 nitrogen oxides removal system foundation details" and "A434A-8134-S1 vacuum pump system foundation" to the list of reference drawings.

G1 – Add the following note to Contractor Staging Area.

3. Contractor can stage a trailer in the area west of Sphere 5 but no closer than 20' from N231. Power (one 20 amp 120 volt circuit) and water is available from N231 for Contractor's use during the construction.

D1- The distance between the two existing concrete foundation to be demolish is 105".

D1 – Add sheet note 9 as follows: *All metal surfaces with lead paint are to be cleaned to bare metal before torch cutting in conformance with APR 8800.3 requirements.*

D1- Keynote 1 shall be revised as follows: *Remove existing equipment foundation and sawcut around existing SVS vertical support, see reference drawing for existing foundation dimensions and rebar location. Existing SVS vertical support and foundation underneath support base plate to remain. Dowel new foundation into existing vertical support footing.*

D1- Keynote 6 shall be revised to read as follows: *"Remove, salvage and return to government (e) NOx gas emission analyzer inside (e) shed...."*

D1-Keynote 9 shall be revised to read as follows: *"Cut, cap and remove....Reconnect (e) chemical feed NaOH tubing to new chemical feed pump...."*

D1- Keynote 9, add – *Demolition shall occur after the new NOx reduction emission system has been tested and in operation.*

D2- Keynote 4 shall be revised to read as follows: *"Cut, cap and remove....Reconnect (e) chemical feed NaOH tubing to new chemical feed pump...."*

D2- Keynote 2, add - *NOx scrubber tower is approximately 40' high.*

S4 – detail A, existing A.C. is 4" minimum thick

M4 – Keynote 4 *should point to the 15'-6" x 68'-0" area as the boundary for the design-build NOx process equipment and piping.*

M6 – Replace detail 4 detail notes 1, 2 & 3 as follows:

1. *4" minimum asphalt concrete (A.C.) or match existing, whichever is greater.*
2. *10" minimum aggregate base or match existing, whichever is greater.*
3. *Class II aggregate base (A.B.), 95% compaction.*

M7, Control Notes 5, add – *There is no control interface between the new NOx reduction system and the existing boiler controls, just physical interface of locating the NOx reduction system control and monitoring panel in the existing boiler controls panel in N234A.*

E2 – Add sheet note 9 as follows: *Contractor shall provide and route new control conduit from the new local NOx reduction system controller to the remote control panel located in N234A. New conduit can be routed overhead on the existing structure subjected to NASA's approval.*

E2 – Add sheet note 10 as follows: *Contractor shall route and support new ¾" conduit from cooling tower to building N231 above existing road, at minimum 16 feet clear height. Conduit cannot be routed underground due to interference of existing underground electrical duct bank.*

Please refer to drawing M7 sequence of operation note 6 for NOx scrubber system remote monitoring and controls requirements from the boiler plant.

Existing utilities (110V AC electrical power and domestic water) is available at the work site. Contractor shall submit utility hookup plan to COTR for approval prior to connection to existing utilities.

Any residual chemical or caustic inside the existing NOx scrubber sphere, tower and tank will be drained by the Government prior to demolition.

(End of Attachment J-2 Amendment)

Responses to Contractor Questions
7/26/2011

1. We request an extension until the end of August for both the proposal response and the past performance questionnaire.

Answer: An extension is not possible for both the proposal and past performance questionnaire.

2. The documentation speaks to NASA ARC having an air permit that allows operations based upon an average NO_x-emissions and being evaluated on an Arc Jet basis. Are there any BAAQMD permitting requirements required of the Contractor? Does NASA plan to change the permit as a result of this project?

Answer: There are no BAAQMD permitting requirements for the contractor. And NASA does not plan to change the permit.

3. What are the specific IST tests that are required to be performed for NASA to accept the NO_x reduction system? The documentation lists a test matrix for runs A, B, C, D, and E as TBD and does not specify an acceptable NO_x level for any of these tests.

Answer: Contractor shall perform tests to prove the NO_x reduction system will meet or exceed the performance requirements in the attachment 1 of the specifications. The acceptable NO_x level shall be less than 4.54 kg/day and the spent scrubber solution shall be less than 5,000 mg/L total dissolved solids (TDS).

4. The RFP has a liquidated damages condition, is there a cap on the liquidated damages?

Answer: No

5. Are the liquidated damages applied to total project duration or outage time?

Answer: To be applied for any time exceeding the contract period of performance.

6. Is there an incentive for finishing early?

Answer: No

7. Has the project been approved for construction by the NASA permit board? Will the Contractor be required to submit any deliverables to the permit board prior to start of construction?

Answer: The project has been permitted by the permit board. Deliverables will be submitted to the project design review team.

8. What are the design deliverable and milestones associated with the design build project?

Answer: The contractor will be required to submit a 50% and 100% design for review.

9. Are there any deliverables that need to be signed by a registrant?

Answer: All structural work and the NO_x scrubber design.

10. What is the typical sound level in dB in the vicinity of the work new scrubber location while the Arc Jet is in operations?

Answer: While the Arc Jet is operational the sound level varies between 88-94 dB. Appropriate hearing protection will be required as specified in the NASA Ames Health and safety manual.

11. What is the pipe size, specifications and invert depth of the exiting industrial waste line shown on drawing M4?

Answer: The existing cleanout is 8 in dia, invert is 6'-2" below grade, the existing sewer pipe is 8" ductile or cast iron pipe.

12. What are the invert depths, existing pipe specification and process definitions for the HPA line that needs to be relocated as shown on M4?

Answer: The top of the HPA line is 6'-0" minimum below grade and is a 2" carbon steel pipe with underground pipe wrap.

13. Please provide soils report for new foundation locations.

Answer: Soil report not available.

14. Are there any containment requirements for the NOx scrubber and waste pre-treatment foundations?

Answer: Contractor shall provide secondary containment to meet current Santa Clara County Ordinance.

15. What are the HMI interfaces required for the NOx emissions reduction system's control system? What are the HMI interface requirements for the remote panel to be located in N234A?

Answer: There are no interfaces between the new NOx reduction scrubber system and the existing boiler room control system. The new NOx reduction system shall have local and remote controls (located in N234A) to monitor and operate the NOx reduction system and is design build and shall be submitted to NASA for approval.

16. The chemical metering pumps do not show up on the electrical design drawings. Is there a pneumatic supply for powering these pumps? If so, where is this pneumatic supply interface location, what is the system air pressure and capacity available?

Answer: The chemical feed pump uses fractional hp motors and Contractor is to provide electrical power (30A circuit) to the chemical shed as shown on E2 keynote 5.

(End of Q&A)