US Department of Commerce NIST-NATL INST OF STDS & TECHN 100 BUREAU DRIVE GAITHERSBURG, MD 20899-0001 ACCEPTANCE NOTIFICATION	Date 27 JAN 2010 Your Reference Number CPSC-I-09-0015
To CONSUMER PRODUCT SAFETY COMMISSION CONTRACT BRANCH CONTRACT SPECIALIST, RM 517 4330 EAST WEST HWY BETHESDA, MD 20814	Agency Reference No CPSC-I-09-0015-001-000 Please refer to this number in future communication with this agency
The Agreement referenced above is: X Accepted ____ Rejected	Estimated costs this order/modification $ 120,000.00 Period of Performance 20-JUL-2009 To 30-SEP-2011

Advance Required: Yes

Fiscal Year and Amount

2009 $ 225,000.00

2010 $ 120,000.00

Total Agreement Amount: $ 345,000.00

Remarks and Attachments:

THIS ORDER IS ACCEPTED IN ACCORDANCE WITH NIST STATUTORY AUTHORITY (15 USC 271-278E). THE AMOUNT STATED IS THE ESTIMATED COST. FINAL CHARGES WILL BE BASED ON ACTUAL COSTS INCURRED WHICH INCLUDE DIRECTLY RELATED EXPENSES AND APPROPRIATE CHARGES FOR INDIRECT AND ADMINISTRATIVE EXPENSES (15USC278b(e)). AS DETERMINED THROUGH THE NIST COST ACCOUNTING SYSTEM. IN THE EVENT THE ESTIMATED AMOUNT IS NOT SUFFICIENT TO COMPLETE THE WORK OR IF EXCESS FUNDS APPEAR TO BE AVAILABLE FOR RETURN, YOU WILL BE ADVISED AS EARLY AS POSSIBLE.

PLEASE ADVANCE FUND TO THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY WORKING CAPITAL FUND (13X4650). NIST IS AUTHORIZED TO REQUIRE AN ADVANCE TO ITS WORKING CAPITAL FUND BY 15 USC 275a.

NIST IS BILLING THRU THE IPAC SYSTEM.

ATTN: DODIE KESSLER

Customer Approval: Name: Title: Date: Phone:	Performing Agency Approval: Name: JOHN QUICK Title: Finance Operations Manager Date: 1/28/10 Phone:

NOT APPLICABLE

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 2

2. AMENDMENT/MODIFICATION NO	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO	5. PROJECT NO. (If applicable)
0001	01/14/2010	REQ-4400-10-0006	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than Item 6)	CODE
FMPS		FMPS	

CONSUMER PRODUCT SAFETY COMMISSION
DIV OF PROCUREMENT SERVICES
4330 EAST WEST HWY
ROOM 517
BETHESDA MD 20814

CONSUMER PRODUCT SAFETY COMMISSION
DIV OF PROCUREMENT SERVICES
4330 EAST WEST HWY
ROOM 517
BETHESDA MD 20814

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
ATTN JEFFREY W GILMAN PHD
100 BUREAU DRIVE MS-8602
GAITHERSBURG MD 20899-8602

CODE 929956050 FACILITY CODE

(x) 9A. AMENDMENT OF SOLICITATION NO

9B. DATED (SEE ITEM 11)

X 10A. MODIFICATION OF CONTRACT/ORDER NO. CPSC-I-09-0015

10B. DATED (SEE ITEM 13) 07/23/2009

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 ACKNOWLEDGEMENT 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) Net Increase: $120,000.00

10 PS EXHR 4400 21498 253A

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:
X	D. OTHER (Specify type of modification and authority) BILATERAL MODIFICATION, FAR 43.103(b)

E. IMPORTANT: Contractor ☐ is not ☒ is required to sign this document and return 1 copies to the issuing office

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

DUNS Number: 929956050
INTERAGENCY AGREEMENT (IAG)

Modification No. 0001 provides funding for additional tasks 4 and 5 as follows:

Add the following new item: (see page 2).

The total amount of this agreement is increased by $120,000.00, from $225,000.00 to $345,000.00.

Discount Terms:
Continued ...

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)
JOHN QUICK Finance Operations Manager	Kim Miles

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)	1/28/10	(Signature of Contracting Officer)	01/14/2010

NSN 7540-01-152-8070
Previous edition unusable

STANDARD FORM 30 (REV. 10-83)
Prescribed by GSA
FAR (48 CFR) 53.243

CONTINUATION SHEET	REFERENCE NO OF DOCUMENT BEING CONTINUED CPSC-I-09-0015/0001	PAGE 2 OF 2

NAME OF OFFEROR OR CONTRACTOR
NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

ITEM NO (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Net 30 Payment: CONSUMER PRODUCT SAFETY COMMISSION DIVISION OF FINANCIAL SERVICES 4330 EAST WEST HWY ROOM 522 BETHESDA MD 20814 FOB: Destination Period of Performance: 07/01/2009 to 09/30/2011 Add Item 0002 as follows:				
0002	MODIFICATION OF IAG CPSC-I-09-0015. UPHOLSTERED FURNITURE PROJECT, INCLUDING TASKS 4 AND 5, IN ACCORDANCE WITH THE ATTACHED STATEMENT OF WORK. Period of Performance: 07/23/2009 to 09/30/2011 ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED AND IN FULL FORCE AND EFFECT.	1	EA	120,000.00	120,000.00

Mod 0001 CPSC-I-09-0015

1. The purpose of the modification is to accelerate the development of a Standard Reference Material (SRM) foam in support of the development of the proposed CPSC upholstered (proposed 16 C.F.R. 1634) furniture flammability standard (herein referred to as the "Standard"). The tasks have been re-arranged from the original IAG to address the needs of the research.

2. Background relating to this modification:

   a. CPSC is proposing flammability standards for upholstered furniture. The proposal would establish performance requirements and certification and labeling requirements for upholstered furniture. Manufacturers could choose one of two possible methods of compliance: They could use cover materials that are sufficiently smolder resistant to meet a cigarette ignition performance test (i.e., "Type I" furniture); or they could place fire barriers that meet smoldering and open flame resistance tests between the cover fabric and interior filling materials (i.e., "Type II" furniture).
   b. The proposed Standard addresses resistance to ignition and limited fire growth by means of bench scale performance tests for cover fabrics and, alternatively, for barriers. The principal performance requirements of the proposed standard are intended to reduce the risk of fire from smoldering ignition. If barriers are chosen as the means of compliance, they must meet both small open flame and smoldering resistance requirements.
   c. In order to qualitatively assess the potential benefits of the proposal, CPSC staff will evaluate Type I (smolder resistance of cover fabrics) and Type II (smolder and open flame resistance of fire-barriers) compliant upholstered furniture. The scope of work under this IAG covers the Type II open flame evaluation of fire barriers to be conducted at NIST. Additionally, the response of smoke and carbon monoxide alarms will be evaluated in this study.
   d. In order to continue the development of the proposed Standard, a technical basis for determining whether a flexible foam material can be developed to meet the requirements for a standard reference foam for use in the proposed standard to address the flammability of upholstered furniture needs to be developed.

3. Description of Services and Tasks:
   a. <u>Phase 1: Foam characterization and bench scale flammability measurement methods and proposed 16 CFR Part 1634 test comparison.</u>

      NIST will obtain:

      1) a series of foam samples (prepared at NIST and/or by a custom foam supplier) with a specific set of properties varied (e.g. density, cell structure, isocyanate type, etc.) so as to allow evaluation of the primary flammability parameters of foam,
      2) the test apparatus necessary to perform the 1634 tests,
      3) quantities of cover and barrier fabrics suitable for evaluating the relation between NIST bench scale flammability measurement methods and 1634,

4) four to six NIST smoldering devices (i.e. modified 1632 boxes with thermal probes) designed to evaluate foam smoldering, and
5) foam test equipment (e.g. air-flow test devise from CPSC).

In addition, the NIST PI will complete all necessary safety requirements as required by NIST policy, such as complete a Project Risk Assessment (PRA), Lab Risk Assessment (LRA), Standard Operating Procedures (SOP), and safety training.

Once these materials are obtained the following tasks will be completed:

i. The relationship between the NIST bench scale, foam smoldering test (a bare-foam test, using a block of foam in an open ventilated enclosure) and the two smoldering tests in 1634 will be evaluated (the 1634 tests are to be evaluated with either 1990's vintage cigarettes or an equivalent SRM cigarette). This will require an intermediate step of assessing the usefulness of measuring sample mass loss in the NIST test as a criterion for smolder initiation. This offers potential improvements in lower replication and shorter test duration.

ii. The foams evaluated in the smoldering tests will be characterized by their physical and chemical properties. A wide variety of characterization methods will be evaluated and the most appropriate will be used. Examples of these methods may include, but are not limited to: thermogravimetric analysis (TGA), dynamic mechanical analysis (DMA), air permeability, density, microcalorimetry, optical microscopy, image analysis, and elemental analysis.

b. Phase 2: Evaluation of primary parameter PU foams in the NIST bench scale flammability and CPSC open flame tests.

i. The relationship between the NIST bench scale, foam flammability and ignitability test (using the cone calorimeter and a cone size foam sample) and the open flame test in 1634 will be evaluated. The NIST bench scale test methods may be modified, as needed, to obtain analogous flammability performance to that observed in the 1634 test methods. These tests will be conducted with the experimental PU foams prepared for the project for evaluating the primary foam flammability parameters.

ii. The foams evaluated in the open flame tests will be characterized by their physical and chemical properties. A wide variety of characterization methods will be evaluated and the most appropriate will be used. Examples of these methods may include, but are not limited to: thermogravimetric analysis (TGA), dynamic mechanical analysis (DMA), air permeability, density, microcalorimetry, optical microscopy, image analysis, and elemental analysis.

c. Phase 3: Preparation / procurement and flammability evaluation of secondary parameter PU foams. In this phase, three foam parameters that have a secondary effect on flammability will be evaluated; such factors may include, but are not limited to, aging, catalyst purity, and foaming batch-to-batch variability. The test foams will be prepared at NIST and/or by a custom foam

supplier. The effect of these foam parameters on foam flammability will be evaluated using the NIST bench scale method(s) developed during Phase 1.

d. Phase 4: Confirmation of bench scale results as compared to 1634 tests for the secondary parameter(s). The secondary parameters will be evaluated according to the 1634 tests, both smolder and open flame ignition. NIST will compare bench-scale methods and 1634 test results to determine if the 1634 tests demonstrate the same flammability performance with the experimental foams.

e. Phase 5: Data analysis:. The data gathered in Phase 1 through Phase 4 will be analyzed and evaluated to enable preparation of a preliminary status report.

i. Decision Point: A status report will be provided to CPSC, for internal CPSC use only, on Phases 1 - 4. If the conclusions demonstrate the viability of developing a SRM foam, the IAG will continue with Phases 6 and 7. Otherwise, the project will be terminated and a final report with all relevant data will be prepared by NIST.

f. Phase 6: Prepare final report: A final report including a summary of each phase of the project, all relevant data, and recommendations for development of a standard foam for 1634 will be prepared for CPSC.

g. Phase 7: SRM foam procurement. Based on the recommendations in the final report and CPSC direction, the characteristics of a Standard Reference Material (SRM) foam will be identified. NIST will devise the appropriate procurement plan to obtain the specified SRM foam from a commercial manufacturer. NIST will work with the commercial facility during the scale-up of the final SRM foam formulation. CPSC staff will be kept informed of the progress and any concerns/issues identified during the scale-up process. NIST will administer the procurement and make the SRM foam available for sale through the NIST SRM program.

i. When appropriate SRM foam has been identified, an approximately 5 year supply will be purchased and stored at NIST. (The 5 year supply is a target, the length of time foam can be stored and the storage conditions will depend on the results of this study, in particular the results associated with the effect of ageing on foam flammability.) Following the normal SRM procedure, a statistical sampling of the batch will be tested for consistency. The SRM foam will then be made available for sale (e.g., to regulators, furnishing manufacturers, etc.) The cost of the SRM foam will be borne by NIST.

4. Cost and Transfer of Funds:

The cost of the initial three (3) phases, in the sum of $225,000 has been disbursed in FY 2009. Tasks 4 and 5 are to be provided for by this modification and are

estimated to be $120,000. The funding will be provided by the CPSC with FY 2010 Operating Plan Funds.

TASK	DESCRIPTION OF TASK	COST	TIME (months)
Task 1.	Phase 1: Compare bench scale flammability test to 1634 test; identify primary factors.	$72.5K	3
Task 2.	Phase 2: Prepare/procure foams and evaluate primary parameters in foams that affect foam flammability.	$72.5K	3
Task 3.	Phase 3: Confirmation of bench scale results compared to 1634 test for primary parameters. Prepare status report for CPSC.	$80K	1
Task 4.	Phase 4: Prepare/procure and evaluate secondary parameters in foams that affect foam flammability.	$100K	3
Task 5.	Phase 5: Confirm bench scale results compared to 1634 tests for secondary parameters.	$20K	1
Task 6.	Prepare final report	$55K	2
Task 7.	SRM procurement	$50K	6
Total.		**$450K**	**19**

5. Funding and Account Data:

The transfer of funds shall be from CPSC to NIST through the On-Line Payment Collection (OPAC) system using the following accounting data:

Transfer from:
CPSC
10 PS EXHR 4400 21498 253A $120,000
ALC: 61-00-0001
TIN: 520978750
DUNS: 069287522
US Treas Code: 61100100

To:
NIST
ALC: 13060001
DUNS: 9299560650
NIST Taxpayer ID Number: 530-20-5706