

NIST-54
(REV. 3-90)
ADMAN 8.05

U.S. DEPARTMENT OF COMMERCE
NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
GAITHERSBURG, MARYLAND 20899

DATE
September 03, 2003

YOUR REFERENCE
CPSC-IAG-03-1363

NIST REFERENCE
8665372

ACCEPTANCE NOTIFICATION

TO
CONSUMER PRODUCT SAFETY COMMISSION
DIVISION OF PROCUREMENT SERVICES
ATTN: DODIE KESSLER, CONTRACT SPECIALIST
4330 EAST WEST HIGHWAY
ROOM 517
BETHESDA, MD 20814-9932

THE ORDER REFERENCED ABOVE IS
 ACCEPTED ACCEPTED AS MODIFIED
1 COPY(S) OF AGREEMENT ENCLOSED SEE REMARKS

PLEASE REFER TO THIS NUMBER IN FUTURE COMMUNICATIONS WITH NIST

ESTIMATED COSTS THIS ORDER OR AMENDMENT
\$ 103,000.00

REVISED TOTAL
\$

NOTE: 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 (15 USC 278b(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 \$ 103,000.00 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.)
BILL NUMBER 5738325000 ENCLOSED SEE REMARKS

ALTHOUGH THE NORMAL PRACTICE OF THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY IS TO REQUIRE AN ADVANCE OF FUNDS; IN THIS INSTANCE, THE ORDER IS ACCEPTED ON A REIMBURSABLE BASIS. YOU WILL BE BILLED MONTHLY.

INFORMATION/TERMINATION DATE
TERMINATION DATE FOR THIS ORDER December 04, 2004

REMARKS
NIST is billing thru the IPAC system

FOR FISCAL OR CONTRACTUAL INFORMATION ON THIS ORDER, CONTACT:
GAITHERSBURG, MARYLAND 20899

SIGNATURE OF ACCEPTING OFFICER

NAME
PAULA K. COPELAND

NAME
WILLIAM A. SMOOT, JR.

OFFICE NUMBER: 301-975-2275

GOVERNMENT COMMERCIAL NUMBER:

WILLIAM A. SMOOT, JR.
DIVISION CHIEF

FAX NUMBER: 301-963-5972

INTERAGENCY AGREEMENT

BETWEEN THE

U.S. CONSUMER PRODUCT SAFETY COMMISSION

AND THE

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

I. INTRODUCTION

The U.S. Consumer Product Safety Commission, hereinafter referred to as CPSC, and the National Institute of Standards and Technology, hereinafter referred to as NIST, hereby agree that NIST shall provide the technical support for and develop a small-scale fire screening test for mattresses and provide the subsequent findings to CPSC, in accordance with the terms and conditions set forth below. This IAG will allow CPSC staff to carry out its obligations in areas of standards development for regulatory purposes, compliance and enforcement.

II. TITLE:

"Mattress Fire Test Method and Screening Test"

III. PURPOSE AND OBJECTIVES:

The purpose of this project is to develop a test methodology to evaluate mattress flammability in which the peak fire size during testing is reduced to a level that can be handled by a typical overhead laboratory fume hood and the performance measures correlate directly with full-scale mattress fire testing behavior. Evaluation of the full-scale test method (upon which the screening test is based) is also needed.

The objectives of this project are:

- A. To develop a screening test methodology that could be used for product development and enforcement of mattress flammability standards;
- B. Provide a methodology that provides measures of mattress performance which correlate directly with full-scale heat release behavior.
- C. Participate in the inter-laboratory study of the NIST full-scale test method for mattresses using NIST burners designed to mimic the local flux of burning bedding.

IV. BACKGROUND:

Fires in which a mattress or bedding article is the first item to ignite are responsible for a major portion of the nation's fire casualties. Among the consumer products within the jurisdiction of the CPSC, mattress and bedding fires were one of the leading causes of civilian injury and second only to upholstered furniture in the number of civilian deaths in 1998. In 1998, mattress or bedding items were first to ignite in about 18,100 residential fires that resulted in 390 deaths, 2,160 injuries and \$208.3 million in property damage. Most of these losses could be addressed by an open flame standard for mattresses.

While full-scale tests are considered the definitive performance test, they are dangerous, expensive and require specialized facilities. At present, only a small number of laboratories in the United States are capable of conducting any type of full-scale mattress fire tests. A bench scale test is needed to serve as a surrogate for full-scale tests of mattresses exposed to ignited bedding or equivalent gas burners (similar to those developed in earlier NIST research). A bench scale test is a necessary component of a performance standard and provides a method of testing that is practical and cost effective. Test samples and materials will be the same as those used in earlier NIST research sponsored by the Sleep Products Safety Council (SPSC), an affiliate of the International Sleep Products Association (ISPA).

The following organizations have entered into a cooperative effort to evaluate mattress and bedding flammability:

National Institute of Standards and Technology (NIST);
United States Fire Administration (USFA).

NIST shall provide the technical support and methodology for developing a fire screening test for mattresses and evaluating the full-scale test method on which the screening test is based.

The following tasks were completed by NIST under a previous IAG (IAG-01-1173):

- Task 1. Design and construct all apparatus for the screening protocol.
- The screening test will require specialized apparatus adapted to bench scale. NIST will develop all test equipment, including an appropriate gas burner and specimen holders, necessary for test development and evaluation.
- Task 2. Calibrate gas burners and refine all test apparatus to give burning behavior within acceptable heat release rate limits and with good correspondence to full-scale behavior.
- NIST will be responsible for making necessary adjustments to test apparatus to ensure equipment is functioning properly and within acceptable test limits. NIST will determine appropriate exposure duration of gas burners.
- Task 3. With assistance from CPSC staff, apply test apparatus to multiple samples from SPSC mattress/foundation designs used in earlier research; reduce data and correlate with results from twin size beds based on the same designs. The total number of tests after the test apparatuses are all functional will be as many as 336.
- Task 4. Complete report on above test protocol development with technical rationale and assessment of its utility as a screening method for mattress/foundations.
- Task 5. Conduct validation testing using full-scale mattresses constructed using unconventional or newly developed materials and alternative designs available through retail sale. NIST will conduct full-scale tests and, with assistance from CPSC staff, conduct tests using screening test apparatus.
- Task 6. Provide complete report on validation testing and correlate full-scale test data with screening test data based on using the same materials.
- Task 7. Conduct additional full-scale validation testing using market supplied bedding items and bedclothing on each of the newly constructed full-scale mattress designs tested in Task 5.

V. STATEMENT OF WORK

New tasks to be completed by NIST under this IAG:

- Task 8. Conduct tests with screening test apparatus using a revised, simplified sample orientation approach and assess the testing results. Finalize screening test methodology.
- Task 9. Complete report on screening test and assess its ability to indicate likely behavior of full-scale mattress designs using NIST burners.
- Task 10. Participate in coordinating and conducting inter-laboratory study to evaluate full-scale test method using NIST burners.
 - Task 10a: Sensitivity testing
 - Task 10b: Inter-laboratory testing
 - Task 10c: Round robin testing

VI. NIST FURNISHED MATERIALS/EQUIPMENT

NIST agrees to furnish all necessary personnel (except as noted in VII), equipment, materials, services, and facilities to complete the objectives list in Section III.

VII. CPSC FURNISHED MATERIALS/EQUIPMENT

CPSC will provide full-scale and screening test samples. CPSC staff will assist in conducting the screening tests and will provide additional assistance as needed.

VIII. CONFIDENTIALITY REQUIREMENTS

- A. All information reported to or otherwise obtained by CPSC or its agents under the Consumer Product Safety Act (CPSA) and provided to or shared with NIST, which contains or relates to a trade secret or other matter referred to in section 1905 of title 18, United States Code, or subject to section 552(b)(4) of the title 5, United States Code, shall be held in confidence by NIST personnel.
- B. To the extent permitted by law, including the Freedom of Information Act, NIST agrees not to release the identity of any manufacturer of any product being tested or reviewed (example: ticking materials, foams, barrier fabrics) in conjunction with this IAG without the written consent of the CPSC
- C. All documents and other materials developed pursuant to this IAG shall have appropriate statements to indicate the work was performed pursuant to the IAG by

NIST; that the documents and other materials produced are the views of the staff or members (present or past) of NIST; and that although the documents and other materials may have been developed in conjunction with CPSC staff and sponsors, the documents and other materials do not necessarily represent the views of the Consumer Product Safety Commission and other sponsors.

- D. Any publications of or publicity pertaining to, the work performed under this Agreement shall include the following:

"This project was funded by CPSC and the U.S. Fire Administration (USFA). The content of this publication does not necessarily reflect the views of the Commission nor the USFA, nor does mention of trade names, commercial products, or organizations imply endorsement by the Commission or the USFA."

IX. PERIOD OF PERFORMANCE

The period of performance shall begin on the effective date and shall not extend beyond 455 calendar days. This agreement may be modified by mutual consent of CPSC and NIST.

X. DELIVERY OR PERFORMANCE

All deliverables required under the terms and conditions of this IAG shall be provided to the CPSC, regardless of the various sources of funding. The following items shall be performed or delivered in accordance with the following schedule:

DELIVERY ITEM	QUANTITY	PERFORMANCE
A. Quarterly progress reports to include, but not limited to: project status, costs incurred for quarter just ended, problems encountered or anticipated and plans for the succeeding quarter.	4 copies	Within thirty (30) calendar days after the end of each quarter.
B. A draft final report for review and comment	4 copies	No later than the end of 365 calendar day test period.
C. A final technical report	16 copies	No later than the end of 455 calendar day test period.
D. Representative photographs and videos of the tests	2 copies	No later than the end of 455 calendar day test period.

XI. DISAGREEMENTS

In the event that CPSC and NIST have a disagreement arising under this interagency agreement, the parties shall cooperatively seek to resolve the disagreement by themselves. If the disagreement cannot be resolved between them, the parties agree to seek the assistance of a third party in resolving the disagreement.

XII. SCHEDULE OF TASK COST AND PERFORMANCE

- A. CPSC agrees to allow NIST to make adjustments as needed in the distribution of resources, as long as the total cost of the project is not increased and the project objectives are all met.

TASK	DESCRIPTION OF TASK	EST. COST PER TASK	EST. TIME FOR EACH TASK
Tasks under previous IAG (IAG-01-1173):			
Task 1.	Design and construct all apparatus for screening protocol	\$40,000	120 calendar days
Task 2.	Calibrate gas burners and refine all test apparatus to give burning behavior within acceptable heat release rate limits and with good correspondence to full-scale behavior.	\$75,000	150 calendar days
Task 3.	Apply apparatus to multiple samples from SPSC mattress/foundation designs; reduce data and correlate with results from twin size beds based on same designs.	\$25,000	135 calendar days
Task 4.	Complete report on above test protocol development with assessment of its utility as a screening method for mattress/foundations.	\$30,000	45 calendar days
Task 5.	Conduct validation testing using full-scale tests and screening test apparatus.	\$20,500	45 calendar days

Task 6.	Complete report on validation testing and correlation between full scale and screening test data.	\$15,000	45 calendar days
Task 7.	Conduct validation testing using full-scale tests with bedding items and screening test apparatus.	\$6,000	90 calendar days
Tasks to be completed under this IAG:			
Task 8.	Conduct screening tests using a simplified methodology and assess testing results. Finalize screening test methodology.	\$20,000	90 calendar days
Task 9.	Complete report on screening test and assess its ability to indicate likely behavior of full-scale mattress designs using NIST burners.	\$13,000	90 calendar days
Task 10.	Participate in coordinating and conducting inter-laboratory study to evaluate full-scale test method using NIST burners.	\$96,000	365 calendar days
	Task 10a: Sensitivity testing	\$48,000	
	Task 10b: Inter-laboratory testing	\$22,000	
	Task 10c: Round robin testing	\$26,000	



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Task 8.	Conduct screening tests using a simplified methodology and assess testing results. Finalize screening test methodology.	\$20,000	90 calendar days
Task 9.	Complete report on screening test and assess its ability to indicate likely behavior of full-scale mattress designs using NIST burners.	\$13,000	90 calendar days
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	Task 10a: Sensitivity testing	\$48,000	
	Task 10b: Inter-laboratory testing	\$22,000	
	Task 10c: Round robin testing	\$26,000	



XIII. LIAISON OFFICERS

A. NIST PROJECT OFFICER

Thomas J. Ohlemiller
 National Institute of Standards and Technology
 Building and Fire Research Laboratory
 Polymers Building, Building 245
 Gaithersburg, MD 20899-8642
 Phone: (301) 975-6481

B. CPSC PROJECT OFFICER

Margaret Neily / Allyson Tenney
 U.S. Consumer Product Safety Commission
 Engineering Sciences Directorate
 4330 East West Highway, Suite 611
 Bethesda, MD 20814
 Phone: (301) 504-7567

C. CPSC FINANCIAL OFFICER

Consumer Product Safety Commission
 Directorate for Administration
 Accounting Operations
 Room 522
 Washington, D.C. 20207

AGENCY PAYMENT OFFICER: Ms. Cecelia R. Smith
 Telephone (301) 504-7172

XIV. COST AND TRANSFER OF FUNDS

The total estimated cost for this IAG is estimated at \$129k, \$103k provided now in FY-03 and \$26k provided in FY-04, depending on availability.

SPONSOR ORGANIZATION	FY-2003 FUNDING	FY-2004 FUNDING
US Fire Administration	\$75k	
US Consumer Product Safety Commission	\$28k	\$26k*

Total funding of the \$103k is to be provided to NIST under this IAG. Payment to NIST will

be based on actual costs incurred.

*Funding for FY-2004 is anticipated but will be dependent on availability and transferred accordingly.

XV. FUNDING AND ACCOUNTING 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

03 PS EXOB 4400 21326 253a

ALC: 61-00-0001

TIN: 520978750

DUNS: 178771713

\$103,000

6130100

per Gene Barbar

301-504-7203

9/3/03

To:

NIST

13-06-0001 13X4650

NIST Taxpayer ID Number: 530-20-5706

XVI. AUTHORITY

Section 27(g) of the Consumer Product Safety Act, (15 U.S.C. 2076(g)),

Section 29(d) of the Consumer Product Safety Act, (15 U.S.C. 2078(d))

XVII. FASA COMPLIANCE

As the servicing agency, NIST agrees to act in full compliance with section 1074 of the Federal Acquisition Streamlining Act (FASA) of 1994, entitled "Economy Act Purchases."

Approved and Accepted for
National Institute of Standards and Technology

Approved and Accepted for
Consumer Product Safety Commission.

BY:



BY:



TITLE:

WILLIAM A. SMOOT, JR
CHIEF, FINANCIAL POLICY DIVISION

TITLE:

Donna Hutton
Contracting Officer

DATE:

9/4/03

DATE:

9/4/03