

Todd Stevenson

CPSC-I-11-0007
INTERAGENCY AGREEMENT
BETWEEN THE
U.S. CONSUMER PRODUCT SAFETY COMMISSION (CPSC)
AND THE
NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

1. PARTIES AND PURPOSE

This Interagency Agreement (IAG) establishes an agreement between the CPSC and Engineering Laboratory, National Institute of Standards and Technology (NIST), U.S. Department of Commerce, through which CPSC will pay NIST for measuring the impact of nanotechnologies on the flammability of thermoplastic and thermoset based consumer products and developing risk models for human exposure to materials released from these consumer products.

2. BACKGROUND

Nanotechnologies are used in globally sold consumer products (e.g., electronic computer housing, soft furnishings, and cosmetic products) to meet the market's and consumer's performance and cost requirements. In the last two years, many of the experimental nanotechnologies developed over the last decade have been evaluated by manufacturers, and a few (e.g., carbon nanofibers and nanotubes) are being or are planned to be incorporated into consumer products. There are several reasons driving the use of these nanotechnologies, but the most significant are that they appear to be a viable replacement for regulatory-banned flame retardants (there are no Environmental, Health and Safety (EH&S)) restrictions on using these nanoparticles), they are being globally considered for enabling compliance with fire performance regulations (e.g., CPSC mattress and upholstered furniture flammability standards), and because they impart potentially large performance improvements for the cost (the cost has significantly reduced and supply has significantly increased for these nanoparticles). Due to their rapid deployment, there are significant knowledge gaps in the environmental, health, and safety of these nanotechnologies and the consumer products containing these nanotechnologies. More specifically, there is a lack of robust risk models considering multiple pathways for human exposure to materials released (from normal end-use stressing) from the consumer products containing nanotechnologies. In addition, there is little information on the real impact these nanotechnologies may have on the flammability performance of consumer products.

3. AUTHORITY

The authorities for this agreement are:

(A) The NIST Organic Act, 15 U.S.C. §§ 273, 275a, and 278b, which authorize NIST to exercise its functions for the Government of the United States and to accept reimbursement for the provision of such functions.

(B) NIST possesses programmatic authority to conduct the requested work pursuant to 15 U.S.C. 278f Fire Research.

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

4. TERMS AND CONDITIONS

(A) CPSC will transfer \$350,000 to NIST as reimbursement for undertaking the activities contemplated by this agreement. This transfer will be made in advance. NIST shall be reimbursed for all actual costs.

(B) Work to be undertaken and deliverables to be provided:

Task 1 through Task 4 shall be completed by NIST. If necessary, NIST may contract for some of the services required under these tasks.

During the execution of this IAG, CPSC shall develop an Interagency Agreement with the National Science Foundation (NSF) Center for the Environmental Implications of Nanotechnology to develop risk models for exposure of released nanoparticles. The deliverables of this NIST/CPSC IAG are critical to the development of the risk models; therefore, NIST shall participate in the CPSC/NSF agreement. NIST participation is addressed in Task 5. Any additional NIST involvement shall be defined in a different agreement.

I. **Task 1: Complete thermoset fabrication.**

- i. NIST shall fabricate thermoset samples (polyurethane foam) containing 3 nanoparticles (carbon nanotubes, nanofiber, clay, and/or nanosilver).

II. **Task 2: Complete thermoplastic fabrication.**

- i. NIST shall fabricate thermoplastic samples based on 2 polymers (poly(acrylonitrile-butadiene-styrene), polylactide, and/or poly(styene-acrylonitrile)) used in electronic housing and containing 3 nanoparticles (carbon nanotubes, nanofiber, clay, and/or nanosilver).

III. **Task 3: Complete stressing and transfer of released materials to CPSC.**

- i. NIST shall expose thermoplastic samples to a simulated wear and tear abrasion condition and collect released materials.

- ii. NIST shall expose thermoset samples to a simulated chewing condition and collect released materials.
 - ii. NIST shall transfer to CPSC ~1g of the released materials and as-received nanoparticles.
- IV. Task 4: Complete characterization and flammability testing.
- i. NIST shall quantify (UV-VIS or ICP) and characterize (SEM) the released materials from Task 3.
 - ii. NIST shall measure the fire performance of samples fabricated in Tasks 1 and 2 using Cone Calorimeter and retain char for potential future analysis and characterization.
- V. Task 5: Participate in risk model development.
- i. NIST shall participate by satisfying the deliverables of this IAG, by providing technical and experimental expertise on activities performed in this IAG, and by participating in monthly nanoparticle release meetings.
- VI. Reporting:
- i. NIST shall provide CPSC with bimonthly updates (verbal or written).
 - ii. NIST shall provide CPSC with a written status report within 10 days of the end of the fiscal year.
 - iii. NIST shall provide CPSC a draft report within 60 days of the end of the period of performance. CPSC shall have 30 days upon receiving a draft report to review and provide comments. NIST shall have an additional 30 days to deliver a completed report to CPSC and submit the report into the WERB process.

TASK	DESCRIPTION OF TASK	Completion (month)	Cost Estimate
1*	Complete thermoset fabrication.	6	\$50,000
2*	Complete thermoplastic fabrication.	9	\$50,000
3*	Complete stressing and transfer of materials to CPSC.	12	\$100,000
4*	Complete characterization and flammability testing.	15	\$150,000
5**	Participate in risk model development	--	--
Total		15 months	\$350,000

*NIST may contract for some services required under these tasks.

**Activities associated with this Task will occur throughout the 15 month agreement. Cost associated with these activities shall be covered by the funds listed in Tasks 1 to 4.

These funds (\$350,000) shall be used by NIST for: purchase and/or modifying equipment and facilities, purchase of materials and supplies, and funding NIST personnel. Any contractor providing services under this agreement other than NIST must be pre-approved by CPSC before any work is initiated. CPSC agrees to allow NIST to acquire and make changes to these resources as needed without approval from CPSC, as

long as the total cost of the project is not increased and the project objectives are all met within the period of performance. NIST agrees to provide written notification to CPSC when these changes are made.

5. ACCOUNTING DATA

Treasury Account Symbol (TAS)/Appropriation Code:

NIST: 13X4650

CPSC: 6110100

These funds will expire on: 9/30/11 – See paragraph 6 regarding non severability

Business Event Type Code:

NIST: COLL

CPSC: DISB

Business Partner Network (BPN) number/DUNS number:

NIST: 929956050

CPSC: 069287522

Tax Identification Number (TIN)

NIST: 530-20-7506

CPSC: 520978750

Agency Location Code:

NIST: 13-06-0001

CPSC: 61-00-0001

Accounting Data:

CPSC: 0100A11DPS 2011 2370400000 EXHR004000 253A0 \$350,000.00

6. DURATION OF AGREEMENT AND AMENDMENTS

This agreement will become effective when signed by the parties. The agreement will terminate on 15 months after signature of the agreement, but may be amended at any time by mutual written consent of the parties.

The purpose of this project is to measure the impact of nanotechnologies on the fire performance of and develop risk models for exposure from released materials of consumer products containing these nanotechnologies. This cannot be achieved unless all of the tasks in this agreement have been completed as described in this agreement. The outputs (e.g., data, materials) of any individual task by itself have no intrinsic value to CPSC. For example, remove stressing activity and the materials and data cannot be generated that enable the subcontractor to build the influence charts that are needed for developing the risk model. For these reasons we believe this project is not severable.

7. TERMINATION AND CANCELLATION CLAUSE

Any party may terminate this agreement by providing 30 days written notice to the other party. If the CPSC terminates the agreement, NIST is authorized to collect costs incurred prior to cancellation of the order plus any termination costs, up to the total value of the agreement.

8. RESOLUTION OF DISAGREEMENTS

Should disagreements arise on the interpretation of the provisions of this agreement or amendments and/or revisions thereto, that cannot be resolved at the operating level, the area(s) of disagreement shall be stated in writing by each party and presented to the other party for consideration. If agreement or interpretation is not reached within 30 days, the parties shall forward the written presentation of the disagreement to respective higher officials for appropriate resolution.

If a dispute related to funding remains unresolved for more than 30 calendar days after the parties have engaged in an escalation of the dispute, disputes will be resolved in accordance with instructions provided in the Treasury Financial Manual (TFM) Volume 1, Part 2, Chapter 4700, Appendix 10, available at <http://www.fms.treas.gov/tfm/index.html>.

9. CONTACTS

The contacts of each party to this agreement are:

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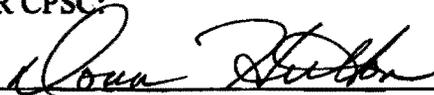
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The parties agree that if there is a change regarding the information in this section, the party making the change will notify the other party in writing of such change.

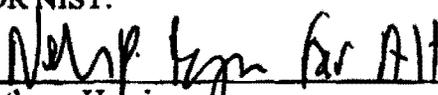
FOR CPSC:



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Date: 7/21/2011

FOR NIST:



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Date: 19 Jun 2011