

CPSC-I-11-0016
INTERAGENCY AGREEMENT
BETWEEN THE
U.S. CONSUMER PRODUCT SAFETY COMMISSION (CPSC)
AND THE
NATIONAL SCIENCE FOUNDATION (NSF)

1. PARTIES AND PURPOSE

This Interagency Agreement (IAG) establishes an agreement between the CPSC and the National Science Foundation (NSF), through which CPSC will provide funds to NSF for the Center for Environmental Implications of Nanotechnology at Duke ("the CEINT") to develop innovative tools for measuring the potential health impact of nanotechnologies used in the flammability treatment of thermoplastic and thermoset based consumer products and develop 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 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 that consider multiple pathways for human exposure to materials released 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. NIST RESPONSIBILITIES

The CPSC has established a separate IAG with NIST (CPSC-I-11-0007) to develop materials containing various nano flame retardants described in Task 1 through Task 4 listed below. These materials will be provided to the CEINT for testing described in Task 5.

- I. Task 1: Complete thermoset fabrication and stressing.
 - i. NIST shall fabricate thermoset samples (polyurethane foam) containing 3 nanoparticles (carbon nanotubes, nanofiber, clay, and/or nanosilver).
 - ii. NIST shall expose thermoset samples to a simulated chewing condition and collect released materials.

- II. Task 2: Complete thermoplastic fabrication, and subcontractor agreement.
 - i. NIST shall fabricate thermoplastic samples based on 2 polymers (poly(acrylonitrile-butadiene-styrene), polylactide, and/or poly(styrene-acrylonitrile)) used in electronic housing and containing 3 nanoparticles (carbon nanotubes, nanofiber, clay, and/or nanosilver).
 - ii. NIST shall award a contract to a vendor with expertise in developing models of materials released from thermoplastics/thermosets.

- III. Task 3: Complete thermoplastic stressing and transfer of materials.
- i. NIST shall expose thermoplastic samples to a simulated wear and tear abrasion condition and collect released materials.
 - ii. NIST shall transfer ~1g of collected materials from stressing of thermoplastic and thermoset samples and as-received nanoparticles to subcontractor.
- IV. Task 4: Complete characterization and flammability testing.
- i. NIST shall quantify (UV-VIS or ICP) and characterize (SEM) released materials from stressing thermoset and thermoplastic samples.
 - ii. NIST shall measure fire performance of samples using Cone Calorimeter and retain char for potential future analysis and characterization.

4. AUTHORITY

The authorities for this agreement are:

- (A) National Science Foundation Act of 1950, as amended (42 USC 1861-76)
- (B) Section 29(d) of the Consumer Product Safety Act (15 U.S.C. 2076(g))

5. TERMS AND CONDITIONS

(A) CPSC will transfer \$250,000 to NSF as reimbursement for supplementing the CEINT for the activities contemplated by this agreement. This transfer will be made in advance. CPSC recognizes that there is a 6.57% cost recovery for NSF.

(B) NSF shall provide funds to the CEINT to conduct the following research:

The work will include experimental and risk modeling components. Data on the hazards of nanomaterial-polymer composites will be developed in experiments using zebra fish, comparing the effects of the nanomaterial alone (free nanomaterials), with those observed using fragments of nanomaterial-polymer composites obtained by abrasion, chewing or other methods to be developed and provided by NIST. The effects of wear material produced from identical polymer matrices that do not contain nanomaterials, using the same abrasion/chewing methods, will also be evaluated. Scale factors will be developed to compare the effects of the nanomaterial composites with nanomaterials alone with the objective of mining a more extensive literature data on the hazards presented by free nanomaterials since data on nanomaterial effects when embedded in polymeric matrices are nearly non-existent.

Task 5.1 Experimental Comparison of Free and Embedded Nanomaterial Effects. Task 1 will examine the effects of ENM, ENM composites, and polymer matrices on uptake and tissue distribution in adult and developing embryonic zebrafish. This will involve exposures to gravid adult zebrafish and directly to embryos with subsequent ENM analysis to quantify bioaccumulation and tissue distribution. Developmental endpoints addressed will include mortality, growth, and teratogenesis assessed in embryos.

Task 5.2. Development of Risk Model. A Bayesian network-based tool will be developed to assess ENM risk on the basis of fundamental physical-chemical properties and the nature of polymeric matrices that may contain nanomaterials. The modeling effort will consider multiple pathways for human exposure and forecast risk based on estimates of exposure and the hazard information obtained in Task 1 as well as from literature data, appropriately extrapolated through the scaling procedure developed in Task 1. Exposure information obtained from NIST will also be incorporated in to the risk forecasting model.

6. REPORTING REQUIREMENTS

The CEINT will provide to CPSC an interim report documenting the toxicity testing protocols, risk modeling tools and the resulting data at the completion of each task. An interim report will also be completed at the end of each fiscal year. The first interim report will be due September 28, 2011. Within

60 days of completion of the tasks 5.1 and 5.2, the CEINT will issue a draft final report for CPSC staff review. Following CPSC staff review, the CEINT will have an additional 30 days to deliver the final report summarizing the test data.

7. CPSC FURNISHED MATERIALS AND EQUIPMENT

CPSC will provide to the CEINT samples of flame retardant nanomaterials extracted from hard and soft materials matrices as described in paragraph 3.

8. DATA SHARING

The CEINT will submit to the CPSC any report, manuscript or other document containing the results of work performed under this agreement before such document is published or otherwise disclosed to the public in order to assure compliance with Section 6(b) of the Consumer Product Safety Act (15 USC 2055(b)), Commission regulations (16 CFR Part 1101), and a Commission Directive (Order No. 1450.2). This clearance restricts disclosure of information that: (1) permits the public to identify particular consumer products, or (2) reflects on the safety of a class of consumer products. Prior submission allows the CPSC staff to ensure compliance with applicable disclosure provisions. CEINT researchers agree to consult with CPSC staff and to provide any drafts of reports or presentation materials to CPSC staff for review; CPSC staff will review and return any such materials within 10 business days.

9. DISCLAIMERS

- (A) All documents and other materials developed pursuant to this IAG shall have the appropriate statements to indicate the work was performed pursuant to the IAG by the CEINT; that the documents and other materials produced are the views of the staff or members (past or present) of the CEINT; and that although the documents and other materials may have been developed in conjunction with CPSC staff, the documents and other materials do not necessarily represent the views of the CPSC.
- (B) Any publications of or publicity pertaining to, the work performed under this agreement shall include the following disclaimer:

"This project was partially funded by the U.S. Consumer Product Safety Commission. The content of this publication does not necessarily reflect the views of the Commission."

10. ACCOUNTING DATA

Treasury Account Symbol (TAS)/Appropriation Code:

NSF: TAS for Program = 491/20100 for ACR funds = 4910180

CPSC: 61110100

These funds will expire on: 9/30/11

Business Event Type Code:

NSF: COLL

CPSC: DISB

Business Partner Network (BPN) number/DUNS number:

NSF: 074811803

CPSC: 069287522

Tax Identification Number (TIN)

NSF: 53-0206152

CPSC: 520978750

Agency Location Code:

NSF: 49-00-0001

CPSC: 61-00-0001

Accounting Data:

CPSC: 0100A11DPS 2011 2370400000 EXHR004000 253A0 - \$250,000.00

11. DURATION OF AGREEMENT AND AMENDMENTS

This agreement will become effective when signed by the parties. The agreement will terminate 18 months after signature of the agreement by both parties, but may be amended at any time by mutual written consent of the parties.

12. DISAGREEMENTS

In the event that CPSC and NSF 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.

13. CONTACTS

The contacts of each party to this agreement are:

Alan Tessier, PhD
National Science Foundation
Telephone: 703-292-7198
Email: atessier@nsf.gov

Treye Thomas, PhD
U.S. Consumer Product Safety Commission
Telephone: 301-504-7738
Fax: (301) 504-0079
Email: ttthomas@cpsc.gov

This agreement is entered into pursuant to the authority of the National Science Foundation Act of 1950, as amended, 42 U.S.C. (1961 to seq.)

Final Control No. K 193
NSF OA No. 11339

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

Donna Hutton

Donna Hutton
Contracting Officer
U.S. Consumer Product Safety Commission
Division of Procurement Services, Room 517
Bethesda, MD 20814
Telephone: (301) 504-7009
Fax: (301) 504-0628
Email: dhutton@cpsc.gov

Date: 8/30/11

APPROVED: *Vanessa L. Richardson*
NSF **Grants Officer** DGA
Vanessa L. Richardson/BIO Team Lead

9/8/2011

Date

FOR NSF:
Vanessa Richardson

Vanessa L. Richardson/BIO Team Lead
Grant's Officer/DGA/NSF

09/08/2011
Date



National Science Foundation
 4201 Wilson Boulevard
 Arlington, VA 22230

TRANSMITTAL MEMO		Date: September, 1, 2011
To:	<input checked="" type="checkbox"/> DGA <input type="checkbox"/> DACS/Cooperative Support <input type="checkbox"/> DACS/Contracts Branch	
From:	(Directorate/Division) BIO/DBI	
Program Officer (name phone ext):	Alan Tessier	ext. 7198
Administrative POC (name phone ext):	Donna Webb	ext. 4477
Subject: Interagency Agreement	(insert requesting agency name) Consumer Protection Safety Commission (CPSC)	
Requesting Agency Agreement #:	CPSC-I-11-0016	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Are the specific NSF grants/cooperative agreements / contracts that the other agency's funding will be supporting identified in the interagency agreement (IAA)? If "yes", then please provide detailed information for each NSF proposal or contract to be funded with the subject interagency agreement [attach detailed list for multiple proposals]: [Note: No NSF grants to be awarded with American Recovery and Reinvestment Act (Recovery Act) funds can be selected for support with other agency funds.]		
NSF award/proposal or contract #:	0830093 - original CA (1157493 - supplement)	
PI Name (first & last):	Mark Wiesner	
Awardee Organization/Vendor name:	Duke University	
Amount to be Obligated (exclude NSF admin fee):	\$233,575	
NSF Program Org Code:	08080000	
NSF Thematic Code:	Nano Centers 13	
If funds to be obligated are not yet identified to specific awards, is there a signed Memorandum of Understanding (MOU) approved in accordance with NSF clearance procedures that explains 1) the purpose NSF is accepting the funds, and 2) the plan for obligation of the Requesting Agency's funds this fiscal year (if applicable)? <input type="checkbox"/> Yes <input type="checkbox"/> No If no, please contact your cognizant Grants and Agreements or Contracts Officer before proceeding. If yes, please insert link to the MOU _____, or provide a copy to your cognizant Grants and Agreements or Contracts Officer.		

5300019257

OA # 11339

Incoming Interagency Agreement Checklist:

- Clearly stated project description or scope of work that identifies the specific activities to be supported by the IA
- Project performance period reflects proposed grant/contract period separately from the period of availability of the funds for obligation
- Requesting Agency's Statutory Authority
- Acknowledgement of NSF's administrative cost recovery (ACR) rate to be applied against (deducted from) the total transferred
- Financial Data Sheet for Interagency Agreements completed by other federal agency including contact information provided for the following: (need email addresses and phone numbers)
 - o Requesting Agency Program Official
 - o Requesting Agency Certifying Official (e.g., Contracts/Grants/Budget Officer)
 - o Requesting Agency Finance/Billing Official
- Received confirmation that no Recovery Act funds are being transferred by other agency (also refer to list of new Treasury Account Fund Symbols created for the Recovery Act)
- Funds represented in only whole dollars (NSF cannot process acceptance of cents)
- Payment/Billing identified as "reimbursement" or "advance" basis
- Disputes/Amendments/Termination clauses included in agreement
- Signature by Requesting Agency Certifying Official
- Copy of approved MOU (if applicable - can be made available electronically) - *NA*
- Special clauses to be included in NSF award/contract (if applicable) - *NA*

NSF Program Official Recommendation:

This subject interagency agreement (IAA) is herein recommended for acceptance and meets the guidelines and data requirements for incoming agreements. Any grants, cooperative agreements, or contracts, including supplements to existing awards, issued as a result of the subject IA will be awarded in accordance with NSF policies and procedures. Monitoring of the executed agreement, timely provision of identified deliverables (where appropriate), and any requests for extension of the agreement to coincide with any approved extensions of the resultant grant/contract will be handled by the cognizant NSF program official.

Signature

Alan Tessier

Alan Tessier, Program Director

Printed Name/Title:

FINANCIAL DATA for INTERAGENCY AGREEMENTS (Transfers TO NSF)

The Intragovernmental Business Rules issued November 30, 2010, under Treasury Financial Manual (TFM) Bulletin 2011-04 Volume I (<http://www.fms.treas.gov/tfm/vol1/11-04.pdf>) recommends use of the new standard Interagency Agreement (IAA) forms (Treasury Form 7600A/B) for all intragovernmental transactions that exchange goods and services. (Forms are found online at: <http://www.fms.treas.gov/finstandard/reference.html>.) Page two of this NSF form, once completed by the NSF Program Official, provides the minimum data required from NSF as the Servicing Agency (seller) to complete the standard IAA forms.

If the Requesting Agency (buyer) does NOT use the new government-wide standard IAA form, then this NSF form (page one) must be filled out and signed by the Requesting Agency and provided to NSF (as Servicing Agency) as an attachment to any agency-specific funds transfer documents.

Requesting Agency ("buyer") Name/Office		US Consumer Product Safety Commission ✓	
Agency Location Code (ALC)		61-00-0001	
Treasury Agency and Trading Partner Code		61	
Business Event Type Code (BETC)		DISB (as requesting agency)	
Business Partner Network # (BPN or DUNS #)		069287522 ✓ TIN: 520978760 ✓	
Treasury Account Symbol (TAS)		61110100	
Fiscal Year Funds Appropriated		2011	
Type of Funds (e.g., one-year, two-year, no-year)		One-year	
Fund Expiration Date:		Fund Cancellation Date:	
Statutory Authority & Citation for entering into IAA		CPSA (15 U.S.C. 2076(g))	
Contact Information:	Name & Title	Email & Telephone Number	
Agency/Program Official	Dr. Treye Thomas	lthomas@cpsc.gov (301) 504-7738	
(funds approving official)	N.J. Scheers, Director, Budget	njscheers@cpsc.gov (301) 504-7670	
Finance Office (payment office)	CPSC Accounts Payable Branch, AM-160 PO Box 25710 Oklahoma City, OK 73125 Debbie Young	Phone: (405) 954-7467	
Please acknowledge that NSF's requirements as Servicing Agency (on page 2 of this form) have been addressed in any agency-specific IAA form.			
Requesting Agency Official Completing Form	Name: Donna Hutton	CPSC Contracting Officer	
	Date: <i>Donna Hutton</i> (Signature)	8/30/11	

FINANCIAL DATA for INTERAGENCY AGREEMENTS (Transfers TO NSF)

Servicing Agency ("seller") Name	<i>National Science Foundation</i>	
Agency Location Code (ALC)	49-00-0001	
Treasury Agency and Trading Partner Code	49	
Business Event Type Code (BETC)	COLL (as servicing agency)	
Business Partner Network # (BPN or DUNS #)	074811803	
Treasury Account Symbol (TAS) <i>(NSF's Treasury Account Symbol varies depending on the program being supported - NSF Program Office must designate appropriate account to use)</i>	FY 2011 TAS for ACR funds 4910180 Agency Operations & Award Management FY 2011 TAS for Program Support 491/20100 Research & Related Activities	
FY11 Administrative Recovery Rate	6.57% deducted from <u>total</u> funds transferred *	
Statutory Authority	<i>National Science Foundation Act of 1950, as amended (42 USC 1861-76)</i>	
Billing Information	<i>Reimbursement Basis; Seller Initiated IPAC; Billing on a monthly basis</i>	
NSF Requirements	<i>NSF will obligate Requesting Agency's funds within period of availability. NSF will bill and collect for ACR upon obligation of any portion of the funds and only bill for reimbursement for program support portion after expenditures are submitted by the grantee or contractor.</i> <i>The period of performance of the IAA must cover the entire anticipated period of the grant, cooperative agreement (CA), and/or contract, as appropriate, and any grant, CA, and/or contract will be awarded in accordance with NSF's terms and conditions.</i>	
Performance Period	10/1/2011 to 10/1/2012	
NSF Address	4201 Wilson Boulevard, Arlington, VA 22230	
NSF Agency Official	<i>Judith Verbeke, Acting Division Director, DBI</i>	<i>jverbeke@nsf.gov; 703-292-7884</i>
NSF Program Officer	<i>Alan James Tessler, Program Director</i>	<i>atessler@nsf.gov; 703-292-7198</i>
NSF Grants/Contracts Officer Contact Info (authorized official to accept funds for NSF)	<i>Vanessa L Richardson, Grants Officer</i>	<i>vrichar@nsf.gov; 703-292-4839</i>
Finance Office (billing)	<i>Alisha Williams dfm-lpac@nsf.gov (703) 292-4539</i>	<i>NSF Division of Financial Management Accounting Operations Branch 4201 Wilson Blvd, Room 11-605 Arlington, VA 22230</i>

* to calculate correct ACR amount as a percentage of the program support funds, divide the program support funds by 0.9343, which equals the total amount to be transferred (the difference between this calculated total and the program support funds is the exact ACR amount - MUST be rounded to nearest whole dollar)