CONSUMER PRODUCT SAFETY COMMISSION
DIV OF PROCUREMENT SERVICES
4330 EAST WEST HWY
ROOM 523
BETHESDA MD 20814

TOXICOLOGY EXCELLENCE FOR RISK ASSESSMENT
ATTN JACQUELIN PATTERSON
2300 MONTANA AVE SUITE 409
CINCINNATI OH 45211-3888

(513) 542-7475 EXT29

DUNS Number: [redacted]
Contracting Officer Representative:
Melanie Biggs
Email: Mbiggs@cpsc.gov
Tel: (301) 987-2593

Task Order 0019 to contract number CPSC-D-12-0001
is hereby issued for risk assessment services.
The Contractor shall provide all necessary
personnel, materials, and services for the
performance period of September 15, 2016 through
(Use Reverse and/or Attach Additional Sheets as Necessary)

25. ACCOUNTING AND APPROPRIATION DATA
0100A16DSE-2016-2325800000-EXHR004500-252A0
$107,873.92

26. TOTAL AWARD AMOUNT (For Govt. Use Only)

27a. SOLICITATION INCORPORATES BY REFERENCE FAR 52.212-1, 52.212-4, FAR 52.212-2, AND 52.212-5 ARE ATTACHED. ADDENDA
ARE NOT ATTACHED

27b. CONTRACTOR PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4 AND 52.212-5 IS ATTACHED. ADDENDA
ARE NOT ATTACHED

28. CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN COPIES TO ISSUING OFFICE. CONTRACTOR AGREES TO FURNISH AND DELIVER ALL ITEMS SET FORTH OR OTHERWISE IDENTIFIED ABOVE AND ON ANY ADDITIONAL SHEETS SUBJECT TO THE TERMS AND CONDITIONS SPECIFIED.

29. AWARD OF CONTRACT
DATED ___________________ YOUR OFFER ON SOLICITATION (BLOCK 5) INCLUDING ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH HEREIN IS ACCEPTED AS TO ITEMS

30a. SIGNATURE OF OFFERER/CONTRACTOR

30b. NAME AND TITLE OF SIGNER (Type or print)
Eddie Ahmad

31a. UNITED STATES OF AMERICA (SIGNATURE OF CONTRACTING OFFICER)

PREVIOUS EDITION IS NOT USABLE

AUTHORIZED FOR LOCAL REPRODUCTION

STANDARD FORM 1449 (REV. 2/2012)

Prescribed by GSA - FAR (48 CFR) 52.212
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>QUANTITY</th>
<th>UNIT</th>
<th>UNIT PRICE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0001</td>
<td></td>
<td></td>
<td></td>
<td>107,873.92</td>
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</table>

September 14, 2017. All work shall be in accordance with the attached statement of work and contractor's final quote dated August 19, 2016.

The total amount of award: $107,873.92. The obligation for this award is shown in box 26.
STATEMENT OF WORK
(Contract# CPSC-D-12-0001 / Task Order 0019)
Exposure Assessment: Mold Exposure Prioritization Tool

1. Description of Services
The Contractor shall provide all necessary personnel, materials, and facilities to reassess and redesign the mold exposure prioritization tool completed under contract CPSC-D-12-0001, Task Order 0013 (CPSC, 2015c). The Contractor shall also incorporate the mold basic characteristics and hazard information from Task Order 0013 (CPSC, 2015a; CPSC, 2015b) with the exposure prioritization tool. The resulting tool will produce two results that CPSC staff will use in investigations of mold-related incidents. One result of the tool will reflect the hazard potential and one will reflect the exposure potential.

The tool will be based on a qualitative/semi-quantitative prioritization logic incorporating factors of exposure, as in the existing mold exposure prioritization tool, factors of mold identification, and factors of potential health effects, as available and documented in the Task Order 0013 deliverables for the mold species listed in Table 1 (CPSC, 2015a; CPSC, 2015b; CPSC, 2015c). The Contractor shall work with the CPSC Contracting Officer’s Representative (COR) to complete this work.

Table 1: Mold species to be included.

<table>
<thead>
<tr>
<th>Mold Species</th>
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</thead>
<tbody>
<tr>
<td>Alternaria</td>
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<tr>
<td>Aspergillus</td>
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<tr>
<td>Chaetomium</td>
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<tr>
<td>Cladosporium</td>
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<tr>
<td>Dicyma</td>
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<tr>
<td>Epicoccum</td>
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<tr>
<td>Malassezia</td>
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<tr>
<td>Penicillium</td>
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<tr>
<td>Phoma</td>
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<tr>
<td>Stachybotrys</td>
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<tr>
<td>Zygomycetes</td>
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</tbody>
</table>

The Contractor shall:

1. Meet with the COR by phone following the completion of each of the subtasks listed below (Section 8) to discuss progress on the task.

2. Meet with the COR to modify the existing mold exposure prioritization tool. The existing interface format and operational platform will remain, and the product categories, weighting factors, prioritization/subfactors, other pertinent components of the tool, and questionnaire will be refined and expanded by the COR and the Contractor to incorporate CPSC-specific needs. CPSC will provide the previous comments on the Task order 0013 report (June 2015) to be considered in this redesign.
a. Additional priority factors will be described by CPSC and added to the existing listings. These will be associated with existing questions on the questionnaires or with new questions supplied by CPSC, and the Contractor shall incorporate into the tool.

b. Priority factors (existing and new) will be given new modifying weighting factors, as needed. CPSC will provide the weighting factor amendments for existing or new factors, and those will be incorporated into the tool.

3. Add the mold species identification and health effects parameters (the Mold Hazard Prioritization component) to the Access®-based tool of modules based on the basic characteristics and hazard information from Task Order 0013.
   a. A rough decision tree will be made that identifies possible genera for the mold, based on consumer-reported descriptors. Based on the identified potential genera, the tool will provide potential health effects and a qualitative assessment of the degree of certainty associated with the possible health effects.
      i. An example output is that this genus has the potential to release toxins that are known human liver carcinogens with data in animals but not in humans or this genus is known to cause asthma in humans.
   b. The Contractor shall base the hazard characterization of each genus on volumes I and III of the Task 013 report (CPSC, 2015a; CPSC, 2015b), with minimal to no additional reference to the literature. The hazard result will be the worst-case potential answers to each of the header categories of Table 2 of the Health Effects Volume from Task 013 (CPSC, 2015b).

4. Provide for record analysis and retrieval from the tool using the practicalities of the existing tool’s platform. The tool will:
   a. Be searchable for consumer complaints, characteristics of mold, product identification, location, and other factors of interest to the CPSC COR.
   b. Report trend analysis based on product, mold, health effect or other factors, within the capacity of the Access™ platform.
   c. Provide for product identification refinement by using the CPSC National Electronic Injury Surveillance System (NEISS) codes provided by CPSC staff.
   d. Expand the tool’s reporting features by providing a format that is useful to CPSC staff in their mold investigations.

5. Prepare a pilot of the modified mold prioritization tool, including the exposure, hazard, and integrative components, to the CPSC COR for review and usability.

6. Incorporate CPSC COR comments and test all of the components of the tool for functionality and completeness before tool is final.

7. Submit a report, functional tool, and references to the CPSC COR. The Contractor shall:
   a. Prepare a report that describes the platform on which the tool operates and a schematic of the tables, links, and operational elements of Access™ utilized for the tool operation. The report shall also contain an updated user operation guide
with changes to the exposure tool and new elements of the hazard portion of the
tool incorporated, such as interview questions on mold identity and reported
effects. The decision tree leading to mold identification shall also be provided.
The report shall also address key assumptions and uncertainties considered for
both the exposure and hazard portions of the tool.

b. Provide a functional tool as an Access™ database.

c. Provide copies of references cited, not provided by the CPSC staff, in electronic
form when the task is completed.

2. Contract Type

This is a firm fixed price task order.

3. Background

Federal agencies including the Centers for Disease Control and Prevention (CDC) and the
Environmental Protection Agency (EPA) have issued warnings and guidance documents on the
dangers of mold in the home and strategies to reduce mold exposures, particularly to children
(CDC, 2014). Consumer exposure to mold on a product may be more frequent and direct than
exposures that might occur in a building setting, making remediation even more important for
products with mold contamination. Mold exposure has been associated with a variety of health
effects, including irritant and allergic reactions, such as asthma and other respiratory conditions
(EPA, 2014). Recently, there have been voluntary recalls of products due to the development
of mold, and the CPSC 360 database contains over a thousand complaints from consumers
regarding the presence of mold.

Based on health effects reported and the amount of consumer product-related incidents received,
CPSC contracted with Toxicology for Excellence in Risk Assessment (TERA) under contract
CPSC-D-12-0001, Task Order 0013 to better characterize mold characteristics, health effects and
toxicity. A mold exposure prioritization tool was also designed in Task Order 0013 for use in
CPSC investigations. This exposure prioritization tool was designed to assist CPSC in
accurately and efficiently responding to entry level mold reports. Under the Task Order’s budget
and timeframe, TERA incorporated suggestions provided by the COR into the exposure
prioritization tool; however, more refinements are necessary for this to be useful for CPSC
activities. Also, incorporating the mold characteristics and hazard information with the exposure
tool will provide more information needed for CPSC staff to investigate mold-related incidents.

4. Objective

The objective of this task is to produce a functional tool that results in hazard and exposure
potential outputs by reassessing and redesigning the existing exposure prioritization tool and
incorporating the mold basic characteristics and hazard data information obtained in Task Order
0013. Specially, the exposure prioritization tool’s categories, factors, subfactors, weighting, and
questionnaire will be expanded and structured to provide information pertaining to mold on
consumer products. To provide CPSC staff with hazard potential outputs, the mold basic
characteristics and hazard data information that were collected in Task Order 13 will be
incorporated into this tool. Based on a decision tree, the genera for the consumer-reported mold
incident will be determined and potential health effects will be provided. The overall output of
the tool will be revisited to provide appropriate guidance for CPSC staff to determine if a mold-contaminated product and the mold species present on the product present a hazard for the consumer.

5. **Period of Performance**

September 15, 2016 through September 14, 2017.

6. **Government Furnished Materials**

If needed, the CPSC COR shall provide electronic copies of the Task Order 0013 reports and database tool.

7. **Deliverables or Performance**

The Contractor shall provide the requested information in the form of a written report and functional database to the CPSC COR within 214 calendar days after the initial meeting. The report shall be emailed to the CPSC COR in a Microsoft Word file and the database in a Microsoft Access file.

8. **Delivery Schedule**

<table>
<thead>
<tr>
<th>Item(s)</th>
<th>Quantity</th>
<th>Delivery or Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>The CPSC Contracting Officer’s Representative (COR) and Contractor shall meet by telephone to discuss and initiate the project.</td>
<td>1 meeting</td>
<td>Within 7 calendar days of task order 0019 award date.</td>
</tr>
<tr>
<td>The CPSC COR shall provide electronic copies of Task Order 13 reports and database tool.</td>
<td>3 reports; 1 database tool</td>
<td>Within 7 calendar days of task order 0019 award date.</td>
</tr>
<tr>
<td>The CPSC COR shall provide a list of references, websites, or CPSC operations to be considered in the design to the Contractor.</td>
<td>As appropriate</td>
<td>Within 14 calendar days of task order 0019 award date.</td>
</tr>
<tr>
<td>The CPSC COR shall be available to consult with the Contractor by teleconference.</td>
<td>As appropriate</td>
<td>At the completion of each subtask, and as needed.</td>
</tr>
<tr>
<td>The CPSC COR and Contractor shall meet by teleconference to discuss the preliminary design and changes to the elements that make up the exposure tool (i.e., factors, subfactors, and weighting) and how to incorporate the mold basic characteristic and hazard information into the overall tool.</td>
<td>1 – 5 meetings, or as needed</td>
<td>As needed</td>
</tr>
<tr>
<td>Task Description</td>
<td>Associated Documents</td>
<td>Completion Due Date</td>
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<tr>
<td>The Contractor shall submit a draft design report in electronic format to the CPSC COR.</td>
<td>1 draft design report</td>
<td>Within 75 calendar day of initial meeting.</td>
</tr>
<tr>
<td>The CPSC COR shall provide the draft design report edited by “Track Changes” to the Contractor.</td>
<td>1 draft design report</td>
<td>Within 14 calendar days after receipt of the draft design report.</td>
</tr>
<tr>
<td>The Contractor shall revise the draft design report as appropriate and submit the draft final design report to the CPSC COR.</td>
<td>1 draft final design report</td>
<td>Within 21 calendar days after receipt of comments on the draft design report.</td>
</tr>
<tr>
<td>The CPSC COR shall provide the draft final design report edited by “Track Changes” to the Contractor.</td>
<td>1 draft final design report</td>
<td>Within 14 calendar days following receipt of the draft final report.</td>
</tr>
<tr>
<td>The Contractor shall submit a draft report (including final design report) and functional prioritization database tool with overall prioritization and reporting functions to the CPSC COR.</td>
<td>1 draft report; 1 draft database tool; 1 final design report</td>
<td>Within 90 calendar days after the CPSC COR commented on the draft final design report.</td>
</tr>
<tr>
<td>The CPSC COR shall provide the draft report and database tool edited by “Track Changes” or type-written comments to the Contractor.</td>
<td>1 draft report; 1 draft database tool</td>
<td>Within 14 calendar days after receipt of the draft report and database tool.</td>
</tr>
<tr>
<td>The Contractor shall revise the draft report and database tool as appropriate. The Contractor shall submit the draft final report and database tool to the CPSC COR.</td>
<td>1 draft final report; 1 draft final database tool</td>
<td>Within 30 calendar days after receipt of comments on the draft report and database tool.</td>
</tr>
<tr>
<td>The CPSC COR shall provide the draft final report and database tool edited by “Track Changes” or type-written comments to the Contractor.</td>
<td>1 draft final report; 1 draft final database tool</td>
<td>Within 14 calendar days following receipt of the draft final report and database tool.</td>
</tr>
<tr>
<td>The Contractor shall revise the draft final report and database tool as appropriate. The Contractor shall provide the final report and functioning final database tool.</td>
<td>1 final report; 1 final database tool</td>
<td>Within 7 calendar days after receipt of comments on the draft final report and database tool.</td>
</tr>
<tr>
<td>The final report and database tool shall be reviewed by the CPSC COR. Inspection and acceptance of the final report.</td>
<td>1 final report; 1 final database tool</td>
<td>Within 7 calendar days after receipt of the final report and database tool.</td>
</tr>
</tbody>
</table>
9. **Place of Delivery**

U.S. Consumer Product Safety Commission  
Directorate for Health Sciences  
5 Research Pl  
Rockville, MD 20850

CPSC Contracting Officer Representative and contact information:  
Melanie B. Biggs, PhD  
mbiggs@cpsc.gov  
301-987-2593

10. **Inspection and Acceptance**

The draft report and database tool submitted to CPSC shall be reviewed within 14 calendar days of its receipt for questions and/or comments. If returned to the Contractor as a result of the review, the Contractor shall address and/or revise their report and database tool accordingly and return the draft final versions to the COR within 30 calendar days of receipt. The CPSC COR shall then have 14 calendar days to review the draft final report and database tool. If necessary, any additional questions and/or comments from the CPSC COR shall be addressed by the Contractor within 7 calendar days of receipt. The CPSC COR shall then have 7 calendar days for final inspection and acceptance of the final report and complete, functioning database tool.

11. **Requirement for CPSC Clearance**

The final report and database are the property of the CPSC. The Contractor shall not publish the final report or database, present the information at scientific meetings, or in any other way make the findings public in any form without the written permission of the COR. Any publication shall be cleared following CPSC procedures, as outlined in the Consumer Product Safety Act.

12. **References**

http://www.cdc.gov/mold/basics.htm


http://www.epa.gov/mold/index.html