U.S. ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF INSPECTOR GENERAL

Public May Be Making Indoor Mold Cleanup Decisions Based on EPA Tool Developed Only for Research Applications

Report No. 13-P-0356 **August 22, 2013**

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Report Contributors: Rick Beusse
Bao Chuong
Jim Hatfield

Abbreviations

CRADA	Cooperative Research and Development Agreement
EPA	U.S. Environmental Protection Agency
ERMI	Environmental Relative Moldiness Index
FY	Fiscal Year
HUD	U.S. Department of Housing and Urban Development
MSQPCR	Mold Specific Quantitative Polymerase Chain Reaction
OIG	Office of Inspector General
ORD	Office of Research and Development

Cover photo: Extensive mold contamination of ceiling and walls. (EPA photo)

U.S. Environmental Protection Agency
Office of Inspector General

13-P-0356
August 22, 2013

At a Glance

Why We Did This Review

An Office of Inspector General hotline complaint alleged that firms were using the U.S. Environmental Protection Agency-developed Environmental Relative Moldiness Index tool to evaluate homes for indoor mold even though the EPA had not validated the tool for public use. The EPA developed ERMI as a way to objectively describe the mold burden present in a home. The index is based on a national sample of indoor mold values. These mold values were determined using an EPA-patented technology called mold specific quantitative polymerase chain reaction. MSQPCR is a way to identify and quantify indoor mold species. As of January 2013, the EPA had 10 active licenses of the MSQPCR technology. We sought to determine whether MSQPCR and ERMI had been properly peer reviewed and validated for public use.

This report addresses the following EPA Goal or Cross-Cutting Strategy:

- *Advancing science, research, and technological innovation.*

For further information, contact our Office of Congressional and Public Affairs at (202) 566-2391.

The full report is at:
www.epa.gov/oig/reports/2013/20130822-13-P-0356.pdf

Public May Be Making Indoor Mold Cleanup Decisions Based on EPA Tool Developed Only for Research Applications

What We Found

We substantiated the allegation that firms were using the mold index tool although the EPA had not validated the tool for public use. The EPA readily acknowledged that it had not validated or peer reviewed MSQPCR or ERMI for public use. The agency said it considers MSQPCR and ERMI to be research tools not intended for public use. Although the EPA has licensed MSQPCR to companies for introduction into the marketplace under the Federal Technology Transfer Act of 1986, neither federal law nor the EPA's procedures address the level of validation needed before or after transferring federally developed technologies to the private sector. In addition, there are no EPA regulatory requirements for developing or validating indoor mold test methods or assessing indoor mold levels.

Licensees were marketing MSQPCR to the public as part of the ERMI tool. In our view, one current and one past licensee's advertising could mislead the public into thinking that these research tools are EPA-approved methods for evaluating indoor mold. The license agreements stipulate that the licensee should not state or imply in any medium that the EPA endorses MSQPCR. In addition, information that appeared on an EPA webpage suggested that the EPA validated and endorsed MSQPCR for public use. Consequently, there is a risk that the public may make inappropriate decisions regarding indoor mold on the belief that MSQPCR and ERMI results were based on research tools fully validated and endorsed by the EPA for public use. Public awareness of indoor mold has risen over the past several years, and trade industry and other publications have raised concerns about the legitimacy of some firms offering remediation services. Because of the numerous questions the EPA received from the public regarding the ERMI tool, the EPA drafted a fact sheet on indoor mold, MSQPCR, and ERMI. Informing the public about the ERMI tool and monitoring compliance with license agreements would improve assurance that the public is not misled about the ERMI tool and understands its limitations. However, the EPA has not finalized or published this fact sheet.

Recommendations and Planned Corrective Actions

We recommend that the EPA periodically review licensee advertising of the MSQPCR tool to determine whether licensees have violated the terms of the license agreement and take appropriate actions as necessary. We also recommend that the EPA remove or clarify potentially misleading statements on its webpage, and finalize a fact sheet on indoor mold, MSQPCR and ERMI to inform the public that MSQPCR and ERMI have not been peer reviewed or validated for public use. The agency generally agreed with our report and provided corrective actions and estimated completion dates that meet the intent of our recommendations. Also, the agency has removed a webpage containing potentially misleading statements; thus, we are closing this recommendation.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

THE INSPECTOR GENERAL

August 22, 2013

MEMORANDUM

SUBJECT: Public May Be Making Indoor Mold Cleanup Decisions Based on EPA Tool Developed Only for Research Applications
Report No. 13-P-0356

FROM: Arthur A. Elkins Jr.

TO: Lek Kadeli, Principal Deputy Assistant Administrator
Office of Research and Development

This is our report on the subject evaluation conducted by the Office of Inspector General of the U.S. Environmental Protection Agency. This report describes issues the OIG identified and makes recommendations to address these issues. The report represents the opinion of the OIG and does not necessarily represent the final EPA position. Final determinations on matters in this report will be made by EPA managers in accordance with established audit resolution procedures.

Action Required

You are not required to provide a written response to this final report because you agreed to all recommendations and provided corrective actions and planned completion dates that meet the intent of our recommendations. Recommendations 1 and 3 remain open with corrective actions ongoing. Please update the EPA's Management Audit Tracking System as you complete the planned corrective actions for recommendations 1 and 3. Since the Office of Research and Development already completed actions that meet the intent of recommendation 2, we are closing that recommendation. Please notify my staff if there is a significant change in the agreed-to corrective actions. We will post this report on our website at http://www.epa.gov/oig.

If you or your staff have any questions regarding this report, please contact Assistant Inspector General for Program Evaluation Carolyn Copper at (202) 566-0829 or copper.carolyn@epa.gov, or Director for Air Evaluations Rick Beusse at (919) 541-5747 or beusse.rick@epa.gov.

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Purpose

The Office of Inspector General received a hotline complaint that alleged firms were using the U.S. Environmental Protection Agency-developed Environmental Relative Moldiness Index® tool to evaluate homes for indoor mold even though the EPA had not validated the tool for public use. We sought to determine whether the EPA's ERMI tool[1] had been properly peer reviewed and validated for public use.

Background

According to the EPA, the presence of molds in indoor environments is a growing concern in the United States, but there is no practical way to eliminate all molds and mold spores in the indoor environment. The way to control indoor mold growth is to control moisture, according to the EPA. Eliminating mold growth can prevent damage to building materials and furnishings and prevent health effects and symptoms associated with exposure to mold. Specific reactions to mold exposure can include:

- Allergic reactions.
- Asthma.
- Hypersensitivity pneumonitis.
- Irritant effects.
- Opportunistic infections.

The EPA's Efforts to Address Indoor Mold

One of the EPA's indoor air quality priorities is to reduce exposure to asthma triggers such as mold. The EPA's Office of Radiation and Indoor Air addresses indoor mold concerns by various means, including educating the public on the health risks associated with mold exposure and how to reduce mold exposure, creating partnerships with public and private sector entities to encourage the public to minimize their risk and mitigate indoor mold problems, coordinating and collaborating with other federal agencies, and conducting research.

The EPA's Office of Research and Development's National Exposure Research Laboratory conducts research to develop the knowledge and tools necessary to assess potential exposures and risks to emerging environmental threats, and mitigate exposures to known contaminants and environmental stressors. This includes developing detection methods for microbial pathogens and assessment tools. The mold specific quantitative polymerase chain reaction technology and ERMI are products of the National Exposure Research Laboratory's research.

[1] In this context, the ERMI tool refers to the process of collecting samples in accordance with the ERMI protocol, analyzing the samples using the MQSPCR and calculating a score using the ERMI algorithm.

Currently, the EPA does not have any regulations or standards for airborne mold contaminants. Further, there are no regulatory requirements for test methods used to quantify mold levels, such as those that exist for regulated pollutants and contaminants. There are also no federal requirements for remediation of indoor mold.

The EPA's Development and Transfer of the MSQPCR Technology

To understand the significance of mold exposure, a standardized technology was needed for the identification and quantification of mold species. To address this need, the EPA developed MSQPCR, a DNA-based method of mold analysis. MSQPCR can identify and quantify over 100 species of mold. The U.S. Patent and Trademark Office granted the EPA a patent for MSQPCR in May 2002. The two EPA scientists identified on the patent as the inventors assigned their patent rights to the EPA.

Under the Federal Technology Transfer Act of 1986, the EPA has licensed MSQPCR to 21 companies since August 2000. The primary purpose of federal technology transfer is to aid the U.S. economy by making U.S. products more competitive in world markets. The concept is for federal labs to get the ideas, inventions and technologies developed with taxpayer dollars into the hands of the private sector as quickly as possible in a form useful to that community. Federal labs must support activities to enhance the awareness, adoption and use of their technology products. Federal law does not specify validation requirements for technology transfer.[2]

Of the 21 companies licensed to use MSQPCR, 10 had active licenses as of January 2013. License agreements were typically valid for 3 to 12 years and may be renewed for successive periods up to 5 years. Two of the 10 active licenses had been renewed for at least one 5-year period.

Nine of the 10 companies with active licenses planned to market the technology to various industry sectors, including indoor air quality, environmental laboratory and real estate (e.g., homeowners, commercial building owners). MSQPCR has been applied to assess indoor air and indoor surfaces for molds, such as pre- and post-remediation testing, to show adequate cleaning of problematic mold species. According to the EPA, from fiscal years 2009 through 2012, the EPA's National Exposure Research Laboratory and the EPA inventors of the MSQPCR technology received over $336,000 in royalties from the licensees.

The EPA's Development of ERMI

Although MSQPCR provides a method for identifying and quantifying fungi mold, there had been a lack of a standardized method for describing the mold

[2] Federal law on technologies developed with federal funds is outlined in 15 U.S.C. §§ 3701-22.

burden in a home. In 2007, EPA and U.S. Department of Housing and Urban Development researchers developed ERMI as a way to objectively describe the mold burden present in a home. These researchers determined that 36 mold species were sufficient to describe the mold burden of a home. As part of the HUD-sponsored American Healthy Homes Survey, dust samples were collected from a nationwide random sampling of 1,096 homes and analyzed by MSQPCR for the 36 indicator species. The ERMI values were then calculated for each of the 1,096 homes. The values were assembled from lowest to highest and divided into quartiles. The values ranged from -10 to 20.

Because ERMI was developed using a nationally representative sampling of homes, the EPA and HUD researchers believed that one could compare any newly sampled home in the United States to ERMI, and assess the home's mold burden relative to the national sampling of 1,096 homes (i.e., lowest 25 percent, highest 25 percent, etc.). According to the EPA, as of January 2013, researchers have applied ERMI in childhood asthma studies in cities across the United States, including Cincinnati, Chapel Hill, Detroit, Boston, Kansas City and San Diego. The studies found higher ERMI values in homes of asthmatic children compared to controls.

Scope and Methodology

We conducted our review from December 2012 to June 2013 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform our review to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our objectives.

To accomplish our objective, we interviewed the complainant, as well as ORD, Office of General Counsel, and Office of Radiation and Indoor Air staff; and managers in Washington, D.C.; Research Triangle Park, North Carolina; Cincinnati, Ohio; and Denver, Colorado. We also reviewed documents provided by the complainant and ORD, as well as information we gathered from Internet searches. We reviewed the license agreements and associated documents for all 10 active licensees and one former licensee. These documents included development and marketing plans, and cooperative research and development agreements. We reviewed the websites of the EPA and current and former licensees for information on MSQPCR, ERMI and indoor mold. We reviewed an ORD-requested external peer review of MSQPCR and ERMI, and EPA articles on the development of MSQPCR and ERMI that were published in peer-reviewed journals. We also obtained information on the amount of royalties the EPA and the EPA researchers received between FYs 2009 and 2012.

Results of Review

The EPA readily acknowledged that MSQPCR and ERMI have not been validated or peer reviewed by EPA for public use. The agency considers MSQPCR and ERMI to be research tools not intended for public use. However, the manner in which one active and one inactive licensee advertised MSQPCR and ERMI has the potential to mislead the public into thinking that these research tools are EPA-approved methods for evaluating indoor mold. Also, information appearing on an EPA Office of Science Policy webpage suggests that the EPA has validated and endorsed MSQPCR for public use. The EPA has developed but has not finalized a fact sheet on MSQPCR, ERMI and indoor mold for the public. Consequently, there is a risk that the public may make inappropriate decisions or take unnecessary actions regarding indoor mold on the belief that MSQPCR and ERMI results were based on research tools fully validated and endorsed by the EPA for public use.

MSQPCR and ERMI Are Research Tools That Have Not Been Validated or Peer Reviewed for Public Use

The EPA managers stated that both MSQPCR and ERMI are research tools that have not been validated or peer reviewed by the EPA for public use. However, the EPA intended them for public domain use by transferring the technology under the Federal Technology Transfer Act. Each of the 10 active license agreements noted the EPA's desire that the licensee make MSQPCR available to the public in the shortest possible time. According to the agreements, this would serve the public interest by providing improved products and processes for identifying and quantifying mold. Further, the licensee development and marketing plans explained how the licensees would commercialize MSQPCR. One licensee, in its application, described the potential to use ERMI to determine whether a house is normal or abnormal with respect to moldiness.

Based on EPA's guidance, if the EPA were to publish MSQPCR as an EPA approved method, a multi-lab validation study would be conducted to ensure that labs could obtain consistent results using the MSQPCR technology. However, none of the licensee development and marketing plans we reviewed included a plan to participate in a multi-lab validation study. Since the EPA does not regulate indoor mold, there are no regulatory requirements regarding the development of indoor mold quantification technology or its use.

Although MSQPCR and ERMI had not been validated or peer reviewed for public use by the EPA, the development of these tools was published in peer-reviewed journals. Also, numerous studies based on using these tools were published in peer-reviewed journals. Further, in February 2010, the EPA conducted an external peer review of the science behind MSQPCR and ERMI.

According to the EPA, the external peer review:

- Concluded that the MSQPCR technology was an advancement in mold characterization.
- Provided several areas for further improvement, particularly sampling.
- Supported the ERMI approach as a research tool for assessing the relationship between mold growth from water damage and health impacts.

This external peer review did not address the readiness of MSQPCR and ERMI for public use.

Licensee Advertising Could Mislead the Public Into Thinking That MSQPCR is an EPA-Approved Test Method for Evaluating Indoor Mold

Statements on the websites of a current licensee and a former licensee could be interpreted to suggest that MSQPCR was an EPA-approved method for evaluating indoor mold levels. The license agreements prohibit licensees from making any claims that EPA endorses the licensed technology, and violation of the terms of the license agreement could result in termination of the license. All license agreements stipulate the following:

- The license agreement does not constitute an endorsement of MSQPCR by the EPA.
- The licensee should not state or imply in any medium that such endorsement exists as a result of the license agreement.

However, at the time we concluded our review in May 2013, one active licensee's website stated that "the science and technology [of MSQPCR and ERMI] is backed by the EPA." Further, the website of an inactive licensee, whose license expired nearly 3 years ago, included the following statement:

> The United States Environmental Protection Agency (USEPA) developed a standard for indoor mold analysis called ERMI …. Due to the establishment of a standard, this new test makes obsolete all previous tests used to identify potential mold related issues, including traditional microscopic analysis of spore traps, tape lifts, and swabs. [Company name] is one of 16 labs worldwide to be licensed by the EPA to perform ERMI analysis.

In our view, these statements suggest endorsement by the EPA, which would violate the terms of the agreement. The above statements suggested that ERMI, along with MSQPCR, had been validated and that the EPA endorsed these tools for public use. In particular, referring to ERMI as an EPA-developed standard is misleading as the general public may interpret the term standard as applied to the EPA to refer to establishment through the regulatory process.

Federal technology transfer staff at the EPA stated that they do not have a program to monitor licensees' compliance with the current terms of the license agreements. We have informed the agency of the misleading advertising by the active and inactive licensees so that they may take appropriate actions.

Additionally, we found instances where firms that were not issued MSQPCR licenses by EPA either stated or suggested on their websites that ERMI is an EPA-approved method for mold analysis. In one instance, a firm's website included the EPA's logo in advertising its services for ERMI analysis. The use of the EPA logo is prohibited for commercial purposes such as the promotion of a product or service. Unauthorized use would suggest government approval of the privately provided product or service.

An EPA Office of Science Policy Webpage Suggested That the EPA Had Validated and Endorsed MSQPCR for Public Use

As of May 2013, an EPA Office of Science Policy webpage contained statements suggesting that the EPA had validated and endorsed MSQPCR for public use. The webpage contained the following statement:

> Anyone, anywhere, if the technique [MSQPCR] is used properly, should get the same identification and quantification for the target mold as anyone else.

Further, a list of the MSQPCR applications on the website included the following language:

> Determining if an environment is abnormally mold contaminated; testing homes for potentially pathogenic molds . . .

In our view, these statements suggest that MSQPCR has been validated and endorsed by the EPA for public use.

Risk That the Public May Make Inappropriate Decisions on Belief That MSQPCR and ERMI Results Are Based on the EPA's Validated and Endorsed Research Tools

There is a risk that the public may make inappropriate decisions or take unnecessary actions regarding indoor mold due to their belief that their mold tests were based on research tools that are fully validated and endorsed by the EPA for public use. Because MSQPCR and ERMI have not been validated and peer reviewed for public use, the work necessary to assure that mold test results are accurate has not been done. Further, if samples from the same home were sent to two or more MSQPCR licensed labs, there is no guarantee that the homeowner would get the same test results.

If mold samples are not collected in accordance with the sampling procedures used to develop the ERMI, the results would be of questionable value. At least five of the 10 companies with active MSQPCR licenses offered to test homes for the 36 indicator mold species using MSQPCR and then calculate an ERMI value for the client. We found one instance where a licensed company produced an ERMI value for a commercial building even though the ERMI values are based on testing of residential homes. Consequently, homeowners and building owners are at risk of spending tens of thousands of dollars to remediate their homes or buildings based on test results that may or may not be accurate. Further, other homeowners and building owners may not take needed remedial actions to address indoor mold risks based on the test results.

Given the increased public awareness of indoor mold and, according to an EPA manager in the Office of Radiation and Indoor Air, an increase in the number of indoor mold remediation firms, it is important that the public is aware of the strengths and limitations of the ERMI tool. EPA has received questions from the public regarding ERMI, including the interpretation of ERMI values. In some instances, people contacting the EPA asked for the EPA's recommendations on which labs to use in obtaining ERMI evaluations. To ensure consistency in the agency's response to such questions, the EPA has developed, but not finalized, a fact sheet for the public on indoor mold, MSQPCR, and ERMI.

Conclusions

The EPA readily acknowledged that it had not validated MSQPCR or ERMI for public use. However, public use of these tools has resulted from the transfer of the MSQPCR technology to licensees. Public inquiries received by EPA staff suggest that there is a risk the public may make inappropriate decisions regarding indoor mold based on the belief that the ERMI tool has been fully validated by the EPA for public use. Information that has appeared on the EPA's webpage and on those of some of the licensees, as well as the fact that EPA has licensed the use of the technology, could have contributed to this misconception. Based on public concerns about indoor mold and its possible health impacts, there is the potential for firms or individuals to overstate the implications of the ERMI tool results to clients in order to persuade them to undertake more costly remediation services. In our view, the EPA has an obligation to inform the public on the limitations of this tool and explain the EPA's position on its use for assessing indoor mold concerns.

Recommendations

We recommend that the assistant administrator for the Office of Research and Development:

1. Periodically review licensee advertising to determine whether licensees have violated the terms of their agreement by implying the EPA's endorsement of MSQPCR and take appropriate action based on the results of this review.

2. Remove or clarify statements on the EPA's website that imply or suggest the EPA validated or endorsed MSQPCR for public use.

3. Finalize the fact sheet on indoor mold, MSQPCR and ERMI to include discussion on the limitations of these tools and make it available to the public, including posting the fact sheet on the EPA's website.

Agency Comments and OIG Evaluation

ORD generally agreed with our recommendations and provided a corrective action plan with milestone dates to address recommendations 1 and 3. ORD's proposed corrective actions and planned completion dates for recommendations 1 and 3 meet the intent of our recommendations. These recommendations will remain open pending completion of the proposed corrective actions.

For recommendation 2, ORD removed the webpage in question. Therefore, we are closing recommendation 2.

No further EPA response to this report is required. Appendix A contains the agency's response to our draft report, including its planned actions for each recommendation.

Status of Recommendations and Potential Monetary Benefits

RECOMMENDATIONS						POTENTIAL MONETARY BENEFITS (in $000s)	
Rec. No.	Page No.	Subject	Status[1]	Action Official	Planned Completion Date	Claimed Amount	Agreed-To Amount
1	7	Periodically review licensee advertising to determine whether licensees have violated the terms of their agreement by implying the EPA's endorsement of MSQPCR and take appropriate action based on the results of this review.	O	Assistant Administrator for Research and Development	9/30/14		
2	8	Remove or clarify statements on the EPA's website that imply or suggest the EPA validated or endorsed MSQPCR for public use.	C	Assistant Administrator for Research and Development	7/26/13		
3	8	Finalize the fact sheet on indoor mold, MSQPCR and ERMI to include discussion on the limitations of these tools and make it available to the public, including posting the fact sheet on the EPA's website.	O	Assistant Administrator for Research and Development	11/22/13		

[1] O = recommendation is open with agreed-to corrective actions pending
C = recommendation is closed with all agreed-to actions completed
U = recommendation is unresolved with resolution efforts in progress

Agency Comments on Draft Report

July 26, 2013

MEMORANDUM

SUBJECT: Response to the Office of Inspector General Draft Report, *Results of Hotline Complaint Review of the EPA's Tool of Evaluating Indoor Mold*, Project No. OPE-FY13-0007, June 12, 2013

FROM: Lek G. Kadeli, Principal Deputy Assistant Administrator

TO: Arthur A. Elkins, Jr., Inspector General
Office of Inspector General (OIG)

Thank you for the opportunity to respond to the OIG draft report titled, *Results of Hotline Complaint Review of the EPA's Tool for Evaluating Indoor Mold.* The Environmental Protection Agency (EPA) is committed to protecting the public health and appreciates the OIG's efforts to ensure that the public does not make potentially inappropriate decisions regarding indoor mold.

The Agency generally agrees with the OIG's recommendations and can improve monitoring efforts to ensure licensees' compliance with terms of license agreements under the Federal Technology Transfer Act (FTTA). However, we believe that the decision to license the technology in question was proper and in full accordance with the intent of the FTTA. In response to both public and the OIG's inquiry, the EPA's Office of Research and Development (ORD) has acknowledged that an indexing tool (ERMI) and patented method for characterizing mold (MSQPCR), licensed to private companies, had been properly peer reviewed but not validated for uses other than research.

The MSQPCR patent was licensed in accordance with the Patent Act, 35 U.S.C. § 207, and the FTTA, 15 U.S.C. § 3710a. Congress enacted the FTTA in 1986 to promote the speedy and efficient transfer of the fruits of federal laboratory research into the market place[1] and delegated decision-making authority to laboratory directors expressly to bypass some of the impediments common in other types of agency programs.[2]

It appears that the hotline complaint is based on the assumption that the patented method and indexing tool should have been validated for routine public use before EPA/ORO licensed the technology. Federal law does not specify validation requirements for technology transfer. Licensing the MSQPCR patent (already found "new and useful" after the rigors of the patent

[1] For example, see: S. Rep. No. 99-283, at 1, "The purpose of this bill is to improve the transfer of commercially useful technologies from the federal laboratories and into the private sector."
[2] For example, see: S. Rep. No. 99-283, at 4, "A requirement to go to agency headquarters for approval of collaborative arrangements and patent licensing agreements can effectively prevent them."

application process) and the use of the ERMI tool allows the technology to be assessed and potentially improved by its actual, real-world application.

In addition, federal agency technology transfer programs operate differently from more familiar agency programs, like rule-making, permitting and product and labeling approvals. In these programs, agencies gather information (often through validation and peer review processes), identify and debate options at length, and then establish enforceable standards that manufacturers and others must meet. In technology transfer programs, the EPA and other agencies look to the private sector to improve, test, use or even reject technology produced in federal laboratories.

In conclusion, we thank you again for the opportunity to provide our comments to the OIG's report. The EPA's responses to the OIG's recommendations are provided below.

AGENCY RESPONSE TO REPORT RECOMMENDATIONS

No.	Recommendation	Corrective Action (s)	Estimated Completion Date
1	Periodically review licensee advertising to determine whether licensees have violated the terms of their agreement by implying the EPA's endorsement of MSQPCR and take appropriate action based on the results of this review.	ORD/OARS Federal Technology Transfer Act (FTTA) staff has started the process of reviewing websites of all active MSQPCR licensees to look for language that suggests endorsement or validation by EPA. FTTA staff will work with OGC to address any such issues with licensees.	9/30/2013
		The FTTA staff will institute a more comprehensive, annual review of all active FTTA licensees to look for language that suggests endorsement or validation by EPA. FTTA staff will work with OGC to address any such issues with licensees.	First annual review will be completed by the end of FY14
2	Remove or clarify statements on the EPA's website that imply or suggest the EPA validated or endorsed MSQPCR for public use.	ORD has removed the website.	Complete
3	Finalize the fact sheet on indoor mold, MSQPCR and ERMI to include discussion on the limitations of these tools and make it available to the public, including posting the fact sheet on the EPA's website.	ORD/NERL will finalize the fact sheet and make it available by posting on an EPA website and providing it to the public when questions arise about the technology.	To be completed within three months of the issuance of OIG's final report

Should you or your staff have any questions, please contact Deborah Heckman at (202) 564-7274.

cc: Ramona Trovato
Bob Kavlock
Alice Sabatini
Jennifer Orme-Zavaleta
Fred Hauchman

Appendix B

Distribution

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