



W O N D E R M A K E R S
E N V I R O N M E N T A L

July 6, 2009

Mr. Vince Sugent
7768 Pleasant Lane
Ypsilanti, MI 48197

RE: Review of supplemental materials

Dear Vince:

Enclosed with this letter is a large volume of documents that have been assembled in response to the supplementary information that was provided by the FAA to the Office of Special Counsel. These documents were provided by the Agency in response to the whistleblower complaint about mold and poor indoor air quality at the Detroit Metro Air Traffic Control Tower (DTW).

The data is provided in two formats: a three-ring binder with paper copies and an electronic version of the documents on a CD. This submission includes copies of numerous documents submitted by the FAA, as well as our analysis/response. For the convenience of the reader these documents are separated and numbered. The individual FAA documents have a numeric designation and the analysis or response to that particular FAA submittal has the same number designator with alphabetic subheadings. For example, the first FAA item that was included in the package is Investigation of Mold and Moisture at the Federal Aviation Administration, Detroit Metropolitan Air Traffic Control Tower facility, July 15, 2008. It has been identified as Tab 1. Wonder Makers has one document that is germane to this FAA paper and it is labeled Tab 1b.

Of the 34 submittals provided to OSC by the FAA 17 were documents that had been previously received by NATCA and reviewed by Wonder Makers. For those previously reviewed documents we have provided copies of the earlier analysis/response that we shared with you when the information was first received. Based on the OSC's instruction to have signed copies of those previous letters, they have been printed and signed, although the original date has been left intact.

Each of the 17 documents that had not been reviewed previously are now included with a detailed response. Because of the volume of material a table of contents is included at the front of the binder.

With this amount of material it is easy to lose sight of the forest for the trees. However, an overview of the information submitted by the FAA makes clear that the Agency's response to the problems at DTW and your attempts to get them resolved rises above apathy and neglect to

deceit and intentional harm. Indeed, when these documents are analyzed in conjunction with the volume of other data that has been compiled regarding the conditions in the workplace a clear progression within the FAA from ignorance to negligence to bad management to lying/deceit/fraud and intentional harm can be seen, as well as the squandering of taxpayer dollars.

While these are strong accusations, the information in three attachments to this letter are examples of the veracity of this conclusion. (See attached Example of Factual Misrepresentation by the FAA to Oversight Authorities; Blatant Disregard for State Regulations by FAA Contractors; Additional Missing Documents) Other documents that have been reviewed also make it perfectly clear that the FAA lied to the arbitrator in 2006 when they repeatedly emphasized that the mold and moisture problems were fixed in the building.

As you will see when you review the documents, this pattern of deceit, which has jeopardized the health of controllers and building occupants, is not restricted to a single incident or even a small subset of the documents. The neglect and intentional harm was clearly a widespread management approach to the problems that you brought to the FAA's attention.

In addition to the personal harm to the occupants that the FAA's approach to mold and IAQ issues has generated, there is another important dimension to this problem. The actions of the Agency at both DTW and other facilities represent a continued pattern of waste. This is especially apparent in their decisions to conduct remediation without comprehensive inspections. Such a policy virtually guarantees that:

- a. An area with water damage will be visited multiple times before the problem is resolved.
- b. Occupants' risks will be increased, particularly where engineering controls are downgraded because a large project is subdivided over time into multiple smaller projects.
- c. Problems linger for years and occupants suffer from long term chronic exposure.

This waste of taxpayer money is further magnified by the FAA's reliance on a single document (New York City Guidelines) for guidance rather than understanding the mold remediation industry standard of care. They appear to have selected this as their touchstone for remediation activities because it allows them to avoid using stringent engineering controls for smaller projects. For example, the EPA guidance document directs the use of negative pressure inside remediation enclosures for any project that involves ten square feet of mold or more; but the FAA consistently writes work plans without this critical safety feature for projects up to 100 square feet.

The waste continues through every phase of the project with work that is ineffective as well as outside the standard of care. The FAA's reliance on cleaning rather than removal of mold-contaminated porous materials may appear to show a short term savings, but it has cost the taxpayers considerably more than what would have been spent to conduct these projects correctly the first time. Of course, the greater waste is the loss of health and well-being that has been suffered by so many occupants.

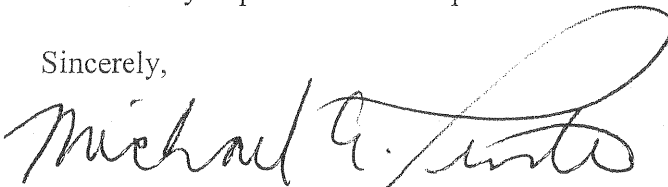
With this evidence in hand it is clear that a number of response steps need to be taken by the Agency to rectify the situation. This list should help move the process from complaint to resolution. Some items that we believe should be included are as follows:

1. Compel the Agency to make amends to the impacted employees at DTW (and other facilities where we have documented inappropriate activities related to mold/IAQ) from a monetary perspective by reimbursing:
 - a. The union for expenses related to medical evaluations by mold specialists and individuals for out-of-pocket expenses for their efforts to secure a proper diagnosis and treatment.
 - b. Employees' sick leave and vacation time that was utilized due to illness or for medical reviews necessitated by conditions in the structure.
2. Compel the FAA to implement reforms at their other facilities around the country that are of similar design or where health concerns have been raised by the occupants. Input and oversight by NATCA would ensure that the FAA follows their own internal IAQ policies.
 - a. Compel the FAA to acknowledge that mold and IAQ problems similar to those found at DTW are present at other facilities around the country.
 - b. Use this admission as a starting point for developing an effective nationwide policy for addressing such concerns. Since they are the ones who suffer from the conditions and policies now in place, building occupants should be represented on the team that develops such policies. It is important to note that such a cooperative task force was instrumental in addressing asbestos concerns throughout FAA facilities in the 1990s. This model should be revived for mold and indoor air quality concerns.
 - c. Immediately initiate baseline air sampling for fungal and bacterial contaminants in all structures with reported IAQ complaints within the last two years, as well as all Leo Daly-designed towers.
 - d. Stop wasting taxpayer dollars by putting an end to mold surveys and inspections that do not involve comprehensive, invasive sampling in order to evaluate conditions and problems such as those documented at DTW.
 - e. Not only should bad inspections be stopped but comprehensive inspections, including invasive samples with proper engineering controls, should be undertaken at all Leo J. Daly-designed towers and other facilities with reported mold or IAQ issues.
3. Since the controllers are the ones who suffer from the conditions in the building, require that information and decision making be shared on items related to inspection, maintenance, or repair of the structure. The best method to ensure that the communication and decision making process is appropriate would be to have all building related efforts controlled by a task force that includes NATCA membership (and their designated experts).
4. Mandate that the FAA allow complete access to NATCA experts for participation in meetings, inspections by FAA contractors, oversight of remediation activities, and independent inspections, testing, and monitoring.

- a. Compel the FAA to reimburse NATCA for all the expense for their experts. The Agency had the opportunity to utilize their expertise at no cost by working in a cooperative fashion, but instead chose to ignore the measured advice and even tried to justify their decisions by attacking the credibility of the union's experts.
5. Based on woeful past performance, building-related decisions should be subject to review by an independent outside entity on an expedited basis so that concerns about decisions that may compromise occupant health do not have to be processed through the standard grievance system. One of the ways to implement this would be to encourage the arbitrator who heard the case in 2006 to reassert jurisdiction over the case.
6. Complete a thorough inspection of both the tower and the base building following the current mold remediation industry standard of care and recognizing that DTW is a critical use facility with sensitized occupants. This inspection would include additional invasive testing and be conducted under negative pressure by a competent inspector who collects air, surface, and bulk samples.
7. Develop a thorough scope of work for addressing mold and other IAQ problems in the building. This scope of work should be completed before extensive discussions begin on how to implement the scope. By separating the work scope from the work plan the initial emphasis can be on determining what is appropriate while later efforts can be focused on determining the safest and most cost-effective manner to accomplish the agreed-upon tasks.
8. Ensure that any work plan incorporates clear and objective end points so that the performance of the contractors and contract managers can be measured. Build back remediated areas with mold-resistant materials.
9. The OSC should initiate investigation to determine if individuals within the Agency violated criminal or civil statutes in their handling of issues related to employee complaints.

Thank you for trusting us to assist you in making sense of this volume of documents. We are confident that resolving these problems and implementing the recommendations would dramatically improve the work space for the occupants at DTW. Feel free to call with questions.

Sincerely,



Michael A. Pinto, CSP, CMP
CEO

Attachments (3)

Attachment 1

Example of Factual Misrepresentation by the FAA to Oversight Authorities

The following string of correspondence involves the FAA's acting administrator Robert Sturgell.

July 21, 2008 letter to Robert Sturgell from Linda Washington Assistant Secretary for Administration, Designated Agency Safety and Health Official, Department of Transportation:

"The whistleblowers allege that despite previous remedial efforts, mold and moisture problems at the tower have not been fully remediated, causing them to continue to experience adverse health effects. **Our investigation has substantiated these allegations.**" [*emphasis ours*]

September 17, 2008 memo from R. Sturgell to L. Washington:

"Based on the corrective actions that the FAA has taken at these facilities, and the sampling and testing, which have been conducted by FAA and independent third parties, **we strongly believe that both facilities provide a safe and healthful work environment for our employees.**"

The sample results that Mr. Sturgell is referring to either do not exist or have not been shared with the building occupants.

November 7, 2008 letter from R. Sturgell replies to September 10 and October 22 letters from Congressman Dingell:

"The FAA has, to date, expended in excess of \$1 million on remediation and modification efforts..."

"Our tests have generally found the occupied tower spaces have better air quality than the outside air."

Once again, the test results that Mr. Sturgell is referring to have not been shared with the occupants.

Attachment 2

Blatant Disregard for State Regulations by the FAA Contractors

A blatant disregard for state regulations has been exhibited. Applied Environmental, Inc. conducted ATCT Mold/Water Incursion Inspections at 14 facilities, including four in Texas: IAH – George Bush Intercontinental/Houston Airport, DFW-MB2- Dallas/Fort Worth International Airport, DFW-MA2 Dallas/Fort Worth International Airport, AUS – Austin Bergstrom International Airport. A review of the State of Texas listing of consultants and companies does not reveal a license for Applied Environmental or for their representatives that have been previously listed on FAA documents.

The State of Texas requires mold assessment consultants to be licensed in Texas under Texas Mold Assessment and Remediation Rules (TMARR) 295.312 MOLD ASSESSMENT CONSULTANT: LICENSING REQUIREMENTS. (a) **Licensing requirements.** Unless exempted under 295.303 of this title (relating to Exceptions and Exemptions), an individual must be licensed as a mold assessment consultant to perform activities listed under subsection 9b) of this section. And under 295.312(f)(13)(f) "...a licensed mold assessment consultant shall: (13) sign and date each mold assessment report and each mold management plan that he/she prepares and include his/her license number and expiration date on each report and each plan."

Attachment 3

Additional Missing Documents

We are concerned that some documents were missing from the package. While this is not surprising since the FAA has developed a history of withholding information throughout the years that the controllers have been suffering, we expected them to be comprehensive in their response to the Office of Special Counsel. The following documents need to be procured:

Tab 22—Photographs from AUS ATCT are too small to review.

Tab 23—Two attachments were not included with the Kansas City Mold Inspection report: Aerotech Laboratories Total Fungal Spore Tape Reports and Aerotech Laboratories Total Fungal Spore Bulk Sample Reports.

Tab 25—Report on Mold and Moisture Inspection, Kansas City Airport, Airport Traffic Control Tower, author unknown, undated. Appendices 2-5 are missing.

Tab 27—Report of Exterior Building Envelope and HVAC Conditions, Kansas City International Airport and TRACON Base Building Airport Traffic Control Tower, January 22, 2008, by DMJM H&N. Appendices are missing.

Tab 29—Corpus Christi ATCT Mold & Moisture Engineering Analysis from Ed Winkler, Civil Engineer to Richard Beyer, Acting Supervisor, December 18, 2007: “The inspection included the ATCT, base building, and ESU building. The inspection focused primarily on areas with known problems that had been identified in a report prepared by All Points Environmental, LLC, based on their September 12, 2007 inspection and assessment of the facility.” This report and any attachments or appendices are missing.

Tab 30—Trip Report from Ed Winkler to Steve Rathmeyer, December 7, 2006: A tape sample was collected. Test results showed that mold was not present. The laboratory analysis documentation was not attached. Appendix with 10 photos is missing.

Tab 31—A Supplemental Statement of Work is mentioned. This document is missing.



WONDER MAKERS
ENVIRONMENTAL

Table of Contents
for
Supplemental Materials (Volume II)

Photo Log, FAA Air Traffic Control Towers (ATCT) Mold/Water Incursion inspection by Applied Environmental. Reviewed by Wonder Makers with Volume I.

- Tab 1 July 15, 2008, Investigation of Mold and Moisture at the Federal Aviation Administration, Detroit Metropolitan Air Traffic Control Tower facility.
- Tab 1b June 2, 2009, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Comparison of two versions of Tab 1.
- Tab 2 Appendix A: Summary of Past Recommendations.
- Tab 2b Michael Pinto's response to Tab 2 was included in his letter to V. Sugent, November 24, 2008, Factual Errors in DOT Mold Report. The review of this document begins on page 4.
- Tab 3 July 21, 2008, letter to Robert Sturgell from Linda Washington, Assistant Secretary for Administration, Designated Agency Safety and Health Official, Department of Transportation.
- Tab 3b June 4, 2009, letter from Vince Sugent to Karen Wilson, Office of Special Counsel.
- Tab 3c September 17, 2008, memorandum from Robert Sturgell, Acting Administrator, to Linda Washington, Assistant Secretary for Administration.
- Tab 3d Excerpted response from Michael Pinto's December 8, 2008, letter to V. Sugent regarding DOT Mold Inspection Report and FAA Response. A full version of that report is also included on the electronic version. The specifics for this document begin on page 5.
- Tab 3e November 7, 2008, letter from Robert Sturgell, Acting Administrator, to Congressman John Dingell.
- Tab 4 July 24, 2006, letter from R. Tubbs, NIOSH, to W. Vogelsburg, CIH, FAA. See tab 9b for Wonder Makers' response to the FOH report.

- Tab 5 January 11, 2007, letter from Ayodele Adebayo, MD M.P.H., to Jo L. Tarrh, Director, Central Service Area for Technical Operations, FAA. See tab 9b for Wonder Makers' response to the FOH report.
- Tab 6 August 16, 2006, letter from David Sylvain, CIH, NIOSH, to Jo L. Tarrh, FAA. No response necessary.
- Tab 7 Performance of Work Items, Microbiological Remediation Project at Detroit Metropolitan Airport Air Traffic Control Tower, undated, no author.
- Specification Microbiological Remediation at Detroit Metropolitan Airport ATCT, July 11, 2008.
- Tab 7b February 4, 2009, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of specification in Tab 7.
- Tab 8 Federal Aviation Administration AGL-473 Project Review Tracking, August 8, 2008.
- Tab 8b June 15, 2009, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of scope of work, specifications (FAA-DTW-ATCT-2697), drawings, and other documents developed by B. Hebert and D. Morse related to mold remediation in the DTW ATCT. The document in Tab 7 is repeated in Tab 8 and the review of these documents is included in Tab 8b.
- Tab 9 FOH Indoor Air Quality/Fungal Visual Assessment and Consultation, May 5, 2006.
- Tab 9b June 13, 2006, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of Tab 9.
- Tab 9c July 6, 2006, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA, with attached Comparison of Mold Related Information from Documents by Cynthia Hutchens-Smith and OSHA.
- Tab 9d May 12, 2006, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of the General Work Plan for Microbial Remediation of the Elevator Shaft at DTW ATCT, submitted to FAA by Clayton Group Services, Inc.
- Tab 9e Peer-reviewed journal article, Michael A. Pinto, Mike Davis, and Sara Eager, "Mold Clean-Up Projects; Post-remediation criteria are crucial to success", Professional Safety, November 2004.

- Tab 10 ATCT at Detroit Metropolitan Wayne County Airport – DTW, Moisture Assessment Report, August 2005.
- Tab 10b September 26, 2005, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Response to Tab 10.
- Tab 11 Safety Risk Management Plan, Detroit Metro Air Traffic Control Tower (ATCT) Long Term Building Evaluation.
- Tab 11b June 27, 2005, letter from Michael Pinto, Wonder Makers Environmental, to Pat Forrey, NATCA. Response to Tab 11. Enclosures not available due to changes in computer system since 2005.
- Tab 12 Risk Management Plan – Risk Identification & Planning.

Safety Risk Management Plan, Project Execution Work Plan for DTW. This is a different version than the one we commented on; refer to Tab 11b.
- Tab 12b June 16, 2009, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of Tab 12.
- Tab 13 Transcript of arbitration between FAA and NATCA on June 20-22, 2007.
- Tab 13b June 22, 2009, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of Tab 13.
- Tab 14 Report on FAA's Action to Address Mold at the Detroit Metropolitan Air Traffic Control Tower Facility, Report Number AV-2006-055, July 11, 2006.
- Tab 14b December 27, 2006, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of Tab 14.
- Tab 15 June 19, 2006, letter from Cynthia Hutchens-Smith, U.S. Department of Labor, to Joseph Figliuolo, Air Traffic Manager, FAA.
- Tab 15b July 6, 2006, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Evaluation of three documents from Cynthia Hutchens-Smith, Area Director of Occupational Safety and Health Administration.
- Tab 16 September 17, 2008, memo from R. Sturgell to L. Washington.
- Tab 16b November 26, 2008, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Factual Errors in FAA's Response to DOT Mold Report.

- Tab 17 Draft, DTW Project Communication Plan, September 25, 2008.
- Tab 17b June 22, 2009, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of Tab 17.
- Tab 18 Appendix D: Industrial Hygiene Report from Michael Cecil, CIH, to Thomas Black, Department of Transportation.
- Tab 18a May 20, 2008, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Initial response to DOT investigation.
- Tab 18b May 28, 2008, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Additional details regarding the DOT investigation of DTW-ATCT.
- Tab 18c Wonder Makers Environmental initial response to the Office of Special Counsel regarding the packet of documents. (October 22, 2008, letter from Mary E. Peters to The Honorable Scott J. Bloch, Special Counsel; September 17, 2008, memorandum from Robert A. Sturgell, Acting Administrator, to Linda Washington, Assistant Secretary for Administration, with Attachments 1 and 2; Investigation of Mold and Moisture at the Federal Aviation Administration Detroit Metropolitan Air Traffic Control Tower Facility, August 21, 2008, author unknown, with Appendix D entitled Indoor Air Quality Survey at the Detroit Metropolitan Airport Air Traffic Control Tower, Detroit, Michigan, prepared for Mr. Tom Black Department of Transportation, by M. A. Cecil and Associates) Page 3, paragraph 3 is a response to the document in Tab 18.
- Tab 18d M. Pinto's response to Appendix D: Industrial Hygiene Report from Michael Cecil, CIH to Thomas Black, Department of Transportation was included in his letter to V. Sugent, November 24, 2008, Factual Errors in DOT Mold Report. The review begins on page 5 of that document.
- Tab 19 June 7, 2007, letter from Robert Safe, Safe Technology, to Wayne Vogelsburg, FAA.
- Tab 19b August 2007, response from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of Tab 19.
- Tab 19c August 2, 2007, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Addendum to WME project #IA06-7235: Correction to results for sample 7235-E12.
- Tab 19d January 22, 2007, Biological Surface Sample Results from Wonder Makers Environmental.

- Tab 20 June 13, 2007, letter from David O’Konski, CIH, CSP, Applied Environmental, to James Burton, Lockheed Martin.
- Tab 20b August 14, 2007, response from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of Tab 20.
- Tab 20 Statement of Work, Microbiological Remediation for Federal Aviation Administration, Detroit Metropolitan Wayne County Airport Traffic Control Tower (DTW ATCT), Detroit, Michigan, June 12, 2008.
- Tab 20c June 23, 2009, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of Tab 20.
- Tab 21 Attachment 2, DTW ATCT Mold Remediation Project Clearance Protocol, prepared by Barbara Hebert, CIH, June 12, 2008.
- This document is also included in Tab 7. See Tab 8b for Wonder Makers’ response.
- Tab 22 Photos from Austin, Texas.
- Tab 22b June 23, 2009, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of Tab 22.
- Tab 23 Kansas City, Missouri, Airport Traffic Control Tower (MCI ATCT) Mold Evaluation, completed June 19-September 1, 2006, author unknown.
- Tab 23b June 23, 2009, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of Tab 23.
- Tab 24 Kansas City, Missouri, Airport Traffic Control Tower (MCI ATCT), Post Mold Remediation Clearance Report, October 3-November 2, 2007, by Barbara Hebert, NISC, CIH.
- Tab 24b March 19, 2008, letter from Troy Wilkinson, Wonder Makers Environmental, to Howard Blankenship, NATCA, regarding post-remediation data from MCI ATCT, October 2007.
- Tab 25 Report on Mold and Moisture Inspection, Kansas City Airport, Airport Traffic Control Tower, author unknown, undated.
- Tab 25b June 29, 2009, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of Tab 25.
- Tab 26 Specification for Microbiological Remediation and Restoration, Kansas City, Missouri, March 29, 2007.

- Tab 26b The version in the supplemental information has three new pages on the front and diagrams in the back. The rest of the document was reviewed in the March 14, 2007, letter from Michael Pinto, Wonder Makers Environmental, to Howard Blankenship, NATCA. Response to Project Action Plan for Mold and Moisture Mitigation MCT ATCT and Statement of Work.
- Tab 26c May 11, 2007, letter from Michael Pinto, Wonder Makers Environmental, to Howard Blankenship, NATCA. Review of Revised Statement of Work for Microbiological Remediation, MCI ATCT and Related Documents.
- Tab 27 Report of Exterior Building Envelope and HVAC Conditions, Kansas City International Airport and TRACON Base Building, Airport Traffic Control Tower, January 22, 2008, by DMJM H&N.
- Tab 27b June 29, 2009, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of Tab 27.
- Tab 28 Corpus Christi, Texas, Airport Traffic Control Tower, Mold and Moisture Assessment, November 14-15, 2007, by Barbara Hebert, NISC, CIH.
- Tab 28b June 18, 2008, letter from Michael Pinto, Wonder Makers Environmental, to Darrell Meachum, NATCA. Evaluation of Tab 28 and 29.
- Tab 28c Attachment 1, Documented Causes of Water Intrusion at CRP ATCT.
- Tab 28d Attachment 2, Recommendation for Fixing the Moisture Intrusion Problems at the CRP ATCT.
- Tab 28e Attachment 3, Summary of Texas Mold Assessment and Remediation Rules.
- Tab 29 Corpus Christi ATCT Mold & Moisture Engineering Analysis from Ed Winkler, Civil Engineer to Richard Beyer, Acting Supervisor, December 18, 2007.
- See Tab 28b for response. Wonder Makers responded to the two documents (tab 28 and 29) on June 18, 2008.
- Tab 29a Attachment 3, Leak Prone Areas at the Cable Access and Junction Levels. This attachment was missing from the binder provided by OSC. We located a copy of the attachment in one of Wonder Makers' files from Corpus Christi.
- Tab 29b July 2, 2009, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of Tab 29a.

- Tab 30 December 7, 2006, Trip Report for St Louis ATCT and Base Building from Ed Winkler to Steve Rathmeyer.
- Tab 30b June 25, 2009, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of Tab 30.
- Tab 31 Statement of Work, Microbiological Remediation for Federal Aviation Administration, St. Louis Airport Traffic Control Tower, July 2, 2007.
- Tab 31b June 26, 2009, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of Tab 31.
- Tab 32 OST Recommendations Tracking Sheet, November 4, 2008.
- Tab 32b June 26, 2009, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of Tab 32.
- Tab 33 United States District Court Civil Action between Denicole Young and Vanessa Ghee v. William Burton and Lew & Tompkins.
- Tab 33b June 29, 2009, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of Tab 33.
- Tab 34 ATO Terminal ATCT & TRACON Facility Design Types – Executive Reference Guide.
- Tab 34b June 29, 2009, letter from Michael Pinto, Wonder Makers Environmental, to Vince Sugent, NATCA. Review of Tab



U.S. OFFICE OF SPECIAL COUNSEL

1730 M Street, N.W., Suite 300
Washington, D.C. 20036-4505

May 18, 2009

Mr. Vincent Sugent
7768 Pleasant Lane
Ypsilanti, MI 48197

Re: OSC File No. DI-08-0550

Dear Mr. Sugent:

Enclosed is a copy of the second part of the supplemental agency report in response to your allegation of a substantial and specific danger to public health and safety at the Department of the Transportation, Federal Aviation Administration, Detroit Metropolitan Airport, Detroit, Michigan.

Pursuant to 5 U.S.C. § 1213(e)(1), you may comment on the report if you wish. Your comments will be sent to the agency head, the President, and the appropriate congressional oversight committees in accordance with 5 U.S.C. § 1213(e)(3). With your consent, your comments will also become part of a public file maintained by OSC. We request that you do not release the agency report at this time, because it is not yet a public document. When your case is closed, we will notify you that a copy of the report has been placed in our public file pursuant to 5 U.S.C. § 1219(a)(4). Once the report has been made public, you should feel free to distribute it.

Please respond within 15 days from the date that you receive this letter. If you cannot complete your comments within this time, please call me at (202) 254-3621, so that we may arrange a short extension of the response date.

Sincerely,

A handwritten signature in cursive script that reads "Kevin Wilson".

Kevin Wilson
Attorney, Disclosure Unit

KPW/kpw

2009 APR 27 AM 11:38

Air Traffic Control Tower (ATCT) Mold/Water Incursion Inspections

Listing of Documents Reviewed

NISC Prime Contract Number
DTFAWA-08-00009
Task Order WESH802A
Applied Environmental, Inc.
Subcontract Number NISC2B-LM0500568-080116

Tab Number	Document Name and Date	Document Type	Author	Recipient	Description
1	Investigation of Mold and Moisture at the FAA Detroit Metropolitan ATCT Facility	Report	OST	FAA	This investigation was performed to determine if mold and moisture issues still affected the DTW ATCT as was alleged by some employees. It determined that fungal growth and water intrusion still affected the building. The report contained a recommendation to perform water damage assessments at other Leo Daly ATCTs.
2	Appendix A: Summary of Past Recommendations	Report	OST	FAA	This document is an appendix to the previous report that lists recommendations by various agencies and contractors. The

Applied Environmental, Inc. ATCT Mold/Water Incursion Inspections

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Tab Number	Document Name and Date	Document Type	Author	Recipient	Description
					FAA's response to each recommendation is listed as well. Appendix outlines past recommendations and resolutions that occurred prior to the ATCT inspection project.
3	Whistleblower Investigation- Allegations of Mold & Moisture Problems at DTW	Memorandum	Linda Washington Asst. Secretary for Administration, Designated Agency S&H Official OST	Robert A. Sturgell Federal Aviation Administrator FAA	Document appears to be a cover letter for a list of recommendations developed during an OST investigation. It names three "whistleblowers" and requests an FAA response to the recommendations. Document contains interagency correspondence that occurred prior to the ATCT inspection project.
4	NIOSH Letter	Letter	Randy L. Tubbs Psychoacoustician NIOSH/DHHS	Wayne Vogelsburg CIH FAA	Closeout letter for NIOSH Health Hazard Evaluation at Detroit Metro Airport. The evaluation was performed by completing a review of consultant reports and medical.

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Tab Number	Document Name and Date	Document Type	Author	Recipient	Description
					records which are summarized in the letter. NIOSH recommended that water intrusion be eliminated from the ATCT and that water damaged and mold affected materials be removed from the building and that ill employees continue treatment through personal providers. Document discusses health hazard analysis performed prior to ATCT inspection project.
5	NIOSH Letter	Letter	Ayodele Adebayo Medical Officer NIOSH/DHHS	Jo L. Tarrh Director, Central Area for Technical Operations FAA	Letter from NIOSH stating that medical records of six air traffic controllers at the Detroit Metro Airport were reviewed. NIOSH stated that the information did not warrant changing the conclusions and recommendations forwarded after a Health Hazard Evaluation performed by the

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Tab Number	Document Name and Date	Document Type	Author	Recipient	Description
					agency for the site. Document discusses medical surveillance performed prior to ATCT inspection project.
6	NIOSH Letter	Letter	David Sylvain Regional Industrial Hygienist NIOSH/DHHS	Jo L. Tarrh Director, Central Area for Technical Operations FAA	Letter to correct statement in previous letter. NIOSH was contacted and will review medical records provided by Dr. Michael Harbut. Document discusses medical surveillance performed prior to ATCT inspection project.
7	Microbial Remediation Project At Detroit Metropolitan Airport Air Traffic Control Tower	Specification	FAA	Contractors	Specification for the microbial remediation at Detroit Metro Airport ATCT. Includes abatement locations, expected work practices, clearance criteria, drawings, and an engineering cost estimate. Document provides guidance for an abatement project performed prior to the ATCT inspection project.

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Tab Number	Document Name and Date	Document Type	Author	Recipient	Description
8	Microbial Remediation Project At Detroit Metropolitan Airport Air Traffic Control Tower	Specification	FAA	Contractors	Duplicate of Document 7 with the addition of FAA tracking, procurement, and funding documents and local permitting documents.
9	NISC SOW For Detroit ACTC Mold Inspection	Statement of Work	Lockheed Martin	Contractors	Scope of work for an inspection of the Detroit Metro Airport ATCT by an independent third party. Document describes inspection and reporting criteria.
10	FOH Indoor Air Quality/Fungal Consultation	Report	Federal Occupational Health USPHS/DHHS	FAA	Report from an indoor air quality survey and fungal inspection performed at the Detroit Metro Airport ATCT. A visual fungal inspection was performed throughout the ATCT, including the elevator shaft. Indoor air quality measurements, moisture measurements, an HVAC inspection, employee interviews, and reviews of past inspection documents were also

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Tab Number	Document Name and Date	Document Type	Author	Recipient	Description
					performed. Acceptable air quality was reported. Minor water damage was reported in some areas. Inspected HVAC system components were reported to be well maintained. This evaluation was performed prior to the ATCT inspection project.
11	Moisture Assessment Report-ATCT at Detroit Metropolitan Wayne County Airport	Report	Jacobs Facilities, Inc.	FAA	Report from a moisture and microbial assessment which included water damage, architectural, and mechanical inspections. Minor microbial growth and water damage were reported in some areas of the ATCT including the elevator shaft. Sources of water intrusion and moisture were identified as well as deficiencies in the HVAC system. A rough cost estimate to correct these conditions was also provided.

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Tab Number	Document Name and Date	Document Type	Author	Recipient	Description
					Document describes an inspection performed prior to the ATCT inspection project.
12	Safety Risk Management Plan, Detroit Metro ATCT, Long Term Building Evaluation	Memorandum	FAA	FAA site personnel at DTW ATCT	Document provides a schedule for a site survey performed by Jacobs Facilities at the Detroit ATCT. A risk assessment for the activities performed during the survey is also provided. Document describes an inspection and associated risk assessment performed prior to the ATCT inspection project.
13	In The Matter Of An Arbitration Between FAA And NATCA, Local DTW/D21	Report	Daniel M. Winograd Arbitrator	FAA NATCA	Report detailing the opinion of and award issued by the arbitrator for a grievance filed by NATCA. Grievance claimed unsafe working conditions. Document outlines a union grievance resolution which occurred prior to the current ATCT inspection project.

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Tab Number	Document Name and Date	Document Type	Author	Recipient	Description
14	Report on FAA's Actions to Address Mold at the Detroit Metropolitan Air Traffic Control Tower	Memorandum	David A. Dobbs Assistant Inspector General for Aviation and Special Program Audits, FAA	Federal Aviation Administrator FAA	Report details the results of a review of FAA actions to address mold in the DTW ACTC. The report was prepared at congressional request. The report concluded that materials exhibiting fungal growth had been remediated but repairs to correct moisture sources in the building had not been completed. A presentation for members of congress is also included. Document outlines remediation actions at the DTW ATCT prior to the ATCT inspection project.
15	OSHA Letter	Letter	Cynthia Hutchens-Smith Area Director OSHA	Joseph Figliuolo Air Traffic Manager DTW/FAA	The letter outlines the results of an OSHA inspection at the DTW ATCT. Though no visible fungal growth was identified, indications of water intrusion and HVAC deficiencies were observed.

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Tab Number	Document Name and Date	Document Type	Author	Recipient	Description
					OSHA requested that these conditions be corrected. Document details an OSHA inspection at the DTW ATCT prior to the ATCT inspection project.
16	Whistleblower Investigation- Allegations of Mold & Moisture Problems at DTW	Memorandum	Steve Zaidman Vice President Technical Operations Services	Linda Washington Asst. Secretary for Administration, Designated Agency S&H Official OST	Memorandum provides a schedule for completion of corrective actions that were recommended in the <i>Investigation of Mold and Moisture at the FAA Detroit Metropolitan ATCT Facility</i> report. In Attachment 2, the author also disputes as inaccurate or misleading some statements made in the report and asks for changes to the document. One action to a recommendation in the above mentioned report was to perform inspections at other Leo Daly ATCTs.

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Tab Number	Document Name and Date	Document Type	Author	Recipient	Description
17	DTW Project Communication Plan	Correspondence	FAA	DTW site personnel and contractors	The plan outlines communication actions to be performed before and during all mold remediation, roof repair, or moisture mitigation projects. Many of these communication actions are performed before and during the subject ATCT inspections.
18	Appendix D: Industrial Hygiene Report	Report	M.A. Cecil, CIH M.A. Cecil and Associates	Thomas Black DOT	This IAQ/Microbial Assessment was performed following removal of mold affected materials in many areas of the DTW tower and base building. Fungal growth was discovered in wall cavities on two unoccupied floors. Microbial sampling in occupied areas and on these floors revealed no significant bacterial or fungal air concentrations. The contractor concluded that due to the location of the fungal growth

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Tab Number	Document Name and Date	Document Type	Author	Recipient	Description
					observed and the air concentrations measured, that FAA employees would not be significantly affected. Document describes an IAQ assessment of the DTW ATCT prior to the ATCT inspection project.
19	DTW ATCT WME Report Review Project #2006-0268	Report	Robert D. Safe Safe Technology, Inc.	Wayne Vogelsburg, CIH FAA	Document is a review of a microbial assessment performed by Wonder Makers Environmental at the DTW ACTC. The author disputed the sampling methods used and the conclusion of the report that the ATCT was contaminated by fungal growth. The document references another assessment performed at the DTW ACTC that occurred prior to the current ATCT inspection project.

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Tab Number	Document Name and Date	Document Type	Author	Recipient	Description
20	Purchase Order 7100026924 – Mold Inspection, Detroit Air Traffic Control Tower	Report	David P. O’Konski CIH, CSP Applied Environmental, Inc.	James Burton Lockheed Martin	Document is a report detailing a visual mold inspection performed at the DTW ATCT. Water stained ceilings and damaged fireproofing was identified on some floors but no microbial growth or current water intrusion sources were identified. This inspection was performed prior to the subject ATCT inspection program.
21	Microbiological Remediation for FAA Detroit Metropolitan Wayne County Airport Traffic Control Tower	Statement of Work	Diane Morse FAA	Contractors	Document is a specification developed for a mold remediation project at the DTW ATCT. The remediation was performed prior to the current ATCT inspection program.
22	AUS ATCT Folder	Pictures	Unknown	Unknown	Folder contains a series of photographs presumably taken during an inspection of the ATCT at the Austin Bergström International Airport (AUS). The photos generally document

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Tab Number	Document Name and Date	Document Type	Author	Recipient	Description
					water damaged materials though other images are present. These photographs were taken during an inspection performed prior to the subject ATCT inspection project.
23	Mold Evaluation – Kansas City, Missouri Airport Traffic Control Tower	Report	Unknown	Unknown	Document is a report detailing a microbial evaluation that included surface and bulk sampling for fungal growth at the MCI ATCT and base building. Elevated fungal concentrations were reported in some areas. This evaluation was performed prior to the current ATCT inspection program.
24	Post Mold Remediation Clearance Report – Kansas City, Missouri Airport Traffic Control Tower	Report	Barbara Hebert NISC CIH	Unknown	Document is a report detailing a clearance inspection and sampling following remediation at the MCI ATCT. It stated that all work areas were eventually cleared by visual inspection

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Tab Number	Document Name and Date	Document Type	Author	Recipient	Description
					and/or air sampling. This remediation and inspection were performed prior to the current ATCT inspection program.
25	Report on Mold and Moisture inspection – Kansas City International Airport , Airport Traffic Control Tower	Report	Unknown	FAA	Document describes the history of water intrusion and fungal growth in the MCI ATCT. It also describes the activities performed during the most recent microbial inspection there. This document describes an inspection that was performed prior to the current ATCT inspection program.
26	Microbiological Remediation and Restoration - Airport Traffic Control Tower Kansas City International Airport, Kansas City, Missouri	Specification	DOT/FAA Central Service Area	Contractors	Document is a specification developed for a mold remediation project at the MCI ATCT. It includes the affected areas, expected work practices, and clearance protocols. The remediation was performed prior to the current ATCT inspection program.

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Tab Number	Document Name and Date	Document Type	Author	Recipient	Description
27	Report on Exterior Envelope and HVAC Conditions – Kansas City International Airport and TRACON Base Building Airport Traffic Control Tower	Report	DMJM H&N AECOM	FAA	Document details a water intrusion, HVAC, and IAQ inspection at the MCI TRACON and ATCT. Water damage due to leaks in the building envelope and high humidity are discussed. Recommendations are provided for repairs. This inspection was performed prior to the current ATCT inspection project.
28	Mold and Moisture Assessment – Corpus Christi, Texas Airport Traffic Control Tower	Report	Barbara Herbert NISC, CIH Texas Dept. of Health Services Mold Assessment Consultant	Unknown	Document is a report detailing a mold and moisture assessment at the CRP ATCT and base building. Water damage and fungal growth were identified in some areas. Recommended remedial actions are included in the report. This assessment was performed prior to the current ATCT inspection program.

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Tab Number	Document Name and Date	Document Type	Author	Recipient	Description
29	Corpus Christi ATCT Mold & Moisture Engineering Analysis	Report	Ed Winkler Civil Engineer Infrastructure Support Center – Kansas City	Richard Beyer Acting Supervisor Infrastructure Support Center – Kansas City	Document is a report detailing an inspection of the CRP ATCT and base building following the assessment reported in the previous document. Water damage, fungal growth, and suspected sources of water intrusion were documented. Recommended remedial actions and cost estimates are also included. This inspection was performed prior to the current ATCT inspection program.
30	Trip to St. Louis ATCT and base building to evaluate leaks and investigation for mold growth	Trip Report	Ed Winkler ACE-472	Steve Rethmeyer Supervisor, Engineering Support, ACE-472	Document is a report detailing an inspection of the STL ATCT. Water damage, fungal growth, and suspected sources of water intrusion were documented. Recommended remedial actions and cost estimate are included. This inspection was performed prior to the current ATCT inspection program.

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Tab Number	Document Name and Date	Document Type	Author	Recipient	Description
31	Microbiological Remediation for FAA St. Louis Airport Traffic Control Tower	Statement of Work	FAA	Contractors	Document is a specification developed for a mold remediation project at the STL ATCT. The remediation was performed prior to the current ATCT inspection program.
32	OST Recommendations Tracking Sheet	Correspondence	OST	FAA	Document lists OST recommendations, the FAA response action, completion deadline, and the current status of each action. The sheet contained a recommendation to perform water damage assessments at other Leo Daly ATCTs.
33	Civil Action Number 07cv0983 (ESH)	Legal Ruling	Ellen Segal Huvelle U.S. District Judge	Public Record	Document is a court ruling involving two Washington, D.C. residents that sued an apartment complex for mold exposure. An expert witness in the case, Dr. Ritchie Shoemaker, was disqualified in a court proceeding. Dr. Shoemaker is

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Tab Number	Document Name and Date	Document Type	Author	Recipient	Description
					quoted in other documents reviewed.
34	ATO-Terminal ATCT & TRACON Facility Design Types – Executive Reference Guide	Reference Guide	FAA	FAA Personnel Contractors	Document is a guide containing definitions of terminal facility design types, the evolution of these designs, the number of such facilities, estimated maintenance costs. This document provides a history and the design characteristics of the Leo Daly design ATCTs.

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List of Acronyms

DHHS	U.S. Department of Health and Human Services
DOL	U.S. Department of Labor
DOT	U.S. Department of Transportation
FAA	Federal Aviation Administration
FOH	Federal Occupational Health
NATCA	National Air Traffic Controllers Association
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
OST	Office of the Secretary of Transportation
PHS	U.S. Public Health Service
CRP	Corpus Christi Airport
DTW	Detroit Metropolitan Wayne County Airport
STL	St. Louis Airport
MCI	Kansas City International Airport
ATCT	Air Traffic Control Tower
HVAC	Heating, Ventilation, and Air Conditioning
IAQ	Indoor Air Quality

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INVESTIGATION OF MOLD AND MOISTURE AT THE
FEDERAL AVIATION ADMINISTRATION
DETROIT METROPOLITAN AIR TRAFFIC CONTROL TOWER FACILITY

July 15, 2008

EXECUTIVE SUMMARY

The scope and objective of this investigation was to determine whether there continues to be mold and moisture problems at the DTW air traffic control tower as alleged by the whistleblowers, and if so, to determine the appropriate remedial actions that FAA should take to resolve this problem. The whistleblowers specifically allege that:

1. FAA's attempts to remediate the mold and eliminate moisture sources in the tower have been insufficient.
2. Union requests to perform invasive testing within wall cavities and observations behind wallboard panels surrounding the tower elevator shaft have been denied by FAA.
3. There is direct evidence that mold is still in the facility and that the moisture problem in the building has not been sufficiently corrected; FAA has placed pans and buckets above drop ceilings to catch water that is intruding into the building.

As discussed below, our investigation has substantiated the whistleblowers' allegations that there continues to be a mold and moisture problem at the facility and that, although FAA has made significant efforts to remediate the mold and moisture intrusion, it has not followed through on several key recommendations to correct this ongoing problem. Based on the site observation, review of documentation and results of bioaerosol fungal spore air monitoring, we found:

- Inspections of tower wall cavities on the outside of the elevator shaft revealed apparent mold growth on the 9th and 4th floors.
- Visible mold was discovered on new drywall that had been installed in the remediation area in room 928 of the tower. Additionally, visible mold was observed on the back side of the green wallboard elevator shaft inside the wall cavity in 928. The mold appeared to be related to moisture wicking up the new drywall that was in contact with the concrete floor slab. The amount of visible mold was small, less than 10 square feet.
- A very small amount of visible mold was also observed in room 428 on the green wallboard elevator shaft inside the wall cavity. No visible mold was observed in the new drywall that was installed in the remediation area in room 428. The amount of visible mold was small, less than 10 square feet.
- In many areas of the tower, drywall is in direct contact with the concrete floor surface.
- The base building roof is leaking badly in several areas. Catch pans and a funnel were observed above the drop ceiling in an attempt to catch rain water and snow melt that is entering the building.
- Approximately 20 stained ceiling tiles were observed to have been recently removed from the facility. These tiles had become wet from base building roof leaks. FAA management indicated that stained/wet ceiling tiles are removed and replaced as a part of routine maintenance.
- The measured airborne fungal spores detected within the facility does not indicate elevated mold spore concentrations.
- The spore *Stachybotrys* was detected within unoccupied areas of the facility, but not in outside air samples. *Stachybotrys* is a mold spore that is not commonly found indoors and is an indicator of chronic moisture intrusion.
- Other measured air quality data for temperature, relative humidity, carbon monoxide, carbon dioxide, and airborne particles did not reveal any indicators of poor indoor air quality.

- A review of employee injury and illness data revealed 15 employees sustained injuries or illnesses related to mold, indoor air quality, or respiratory illness in 2005 and 2006.
- There does not appear to be ongoing employee injuries or illnesses due to mold, indoor air quality, or respiratory issues. The most recent case related to mold or air quality was reported almost 2 years ago, on July 24, 2006.
- Some past recommendations submitted by outside agencies and consultants have been completed; however many of the items are still considered incomplete or in progress. Most importantly, moisture and condensation problems continue to remain at the facility. Areas where previous mold growth had occurred and been remediated were observed to have moisture intrusion and visible mold growth again. See Appendix A of this report for greater detail on the status of past recommendations.
- FAA failed to perform a detailed inspection of wall cavities within the air traffic control tower or allow the union to conduct wall cavity inspections of the elevator shaft walls. Subsequent wall cavity inspections performed as part of this investigation did indeed reveal visible mold. Such inspections should have occurred at the facility years earlier.

As detailed later in this report, our recommendations to FAA include:

- Perform a comprehensive inspection of the tower's elevator shaft and wall cavities on all floors to determine the full extent of the moisture and mold problem.
- Remove any identified mold and molded porous materials that are discovered and develop a communication plan and safety control plan to be shared with employees working within the facility. Removal of molded materials shall be conducted in a safe and controlled manner, similar to asbestos abatement and in accordance with the Environmental Protection Agency's *Table 2: Guidelines for Remediating Building Materials with Mold Growth Caused by Clean Water*
<http://www.epa.gov/mold/table2.html>.
- Remove all unnecessary wall board and porous materials from the unoccupied areas of the air traffic control tower. These materials may become a food source for mold should they become wet. If wallboard must be reinstalled for fire rating reasons, investigate using paperless wallboard, cement backer board, or mold resistant drywall. Drywall surfaces shall not be in direct contact with the concrete floor deck and shall have a 1/2 inch gap.
- Monitor the facility for moisture intrusion, mold growth, and condensation. Utilize the data from the temperature and humidity sensors that have been installed in the elevator shaft and tower rooms to determine if condensation is occurring. Make corrective action to prevent such occurrences and stop moisture intrusion into the structure.
- Replace the leaking base building roof and develop a communication and safety control plan to be shared with all employees at the facility.
- Review FAA's policies to ensure that employees are encouraged to report work-related medical and health issues. Management should create an environment that promotes the prompt reporting work-related injuries, illnesses and health symptoms and openly support the taking of approved sick leave when necessary in accordance with FAA's policies and union agreements. FAA should conduct an employee health symptom survey to provide an opportunity for employees at the facility to openly express their health and medical symptoms without fear. A follow-up survey should be conducted after the mold

remediation and moisture problems have been corrected to document if employee health problems have improved.

- Evaluate other FAA air traffic control towers of similar Leo Daly design and construction to determine if they have similar moisture and mold growth problems.

METHODOLOGY

The investigative team from the Office of the Secretary of Transportation (OST), consisted of the Departmental Safety and Occupational Health Manager (CIH), a senior attorney from the Office of General Counsel and a contract Certified Industrial Hygienist. The team investigated the whistleblowers' allegations that the mold and moisture problems at the air traffic control facility have not been fully remediated, that the FAA has denied requests by the Union to perform invasive testing of wall cavities and that moisture is continuing to intrude into the building. The team reviewed documentation received from both the whistleblowers and FAA management, including previous reviews and investigations conducted at the facility by several contractors and government entities including the DOT Office of Inspector General; National Institute for Occupational Safety and Health (NIOSH), the U.S. Public Health Service, Office of Federal Occupational Health (FOH); Department of Labor's Occupational Safety and Health Administration (OSHA). The team also reviewed medical related information received from the whistleblowers and correspondence and reports from the union's expert. The most recent independent review of the FAA's remediation efforts was conducted by an arbitrator who heard grievances filed by the union concerning mold contamination at the DTW facility. The Arbitrator's decision was issued on October 5, 2007. In this decision, the Arbitrator found that "at this point, the Agency has employed every reasonable means of abating the mold and preventing future problems." However, the Arbitrator stated that his conclusion was tentative and that if the mold contamination continued, then it was incumbent on the Agency to make further efforts to remediate the problem.

The investigation also included a site visit on May 19-20 which consisted of meetings with management and interviews with each of the three whistleblowers who were accompanied by a union attorney during their interview. In addition, a site inspection was conducted by the Departmental Safety and Occupational Health Manager and the contract certified industrial hygienist which consisted of a visual inspection of the facility for mold and moisture intrusion and bioaerosol air monitoring for fungal spores. The visual inspection included an invasive inspection of wall cavities using a boroscope, and a visual inspection of the elevator shaft from the roof of the elevator car. Management and union representatives accompanied OST on this site inspection. In addition on May 20, a union expert, among others, also observed the inspection. The industrial hygiene report, including air sampling results and notes and photographs from the visual inspection are appended to this report as Appendix C and D.

BACKGROUND

Visible mold growth was identified in several areas of the Detroit air traffic control tower during a routine inspection on September 28, 2004. The Detroit Metropolitan air traffic control tower is a Leo Daly design, constructed in 1990. The tower is approximately 230 feet tall, with a 3 level base building attached to it to connect to the main terminal. The majority of the tower shaft is

unoccupied areas with no storage inside. There is a central elevator shaft used to transport employees from the base building up to the air traffic control tower cab.

In 2005 and 2006 FAA made efforts to remove the identified mold from the tower structure, seal the structure to prevent additional moisture intrusion, and made modifications to the building's heating, ventilation, and air conditioning system to help improve the air balance, prevent condensation, and create a positive air pressure in the facility. FAA was advised to clean visible mold from the elevator shaft liner using a biocide chemical and on January 22, 2005, employees were evacuated from the facility due to the strong chemical odor. This resulted in 7 employee injury/illness claims reported on that date due to employees suffering respiratory illnesses caused by the elevator shaft cleaning efforts.

Since 2005, numerous agencies and contractors including the Occupational Safety and Health Administration, National Institute for Occupational Safety and Health, and Federal Occupational Health have visited the site or conducted a review of documentation related to the facility and employee health issues. The conclusions of these experts indicated that the building did have evidence of moisture intrusion and mold growth, that employees may be experiencing health effects, and that actions were necessary to stop moisture from entering the facility, that visible mold needed to be remediated, and that improvements must be made to the building's heating, ventilation, and air conditioning systems to prevent moisture condensation.

During that time, the union was prevented from conducting intrusive wall cavity inspections or conducting air monitoring and industrial hygiene samples within the facility. The Office of the Inspector General also conducted an inspection of the facility and released a report of their findings on July 11, 2006, recommending that FAA alleviate the source of moisture, finding that until the moisture sources had been controlled, mold will continue to be an ongoing problem. Employees at the facility claim that they still suffer mold related respiratory illnesses and that the facility continues to suffer from moisture intrusion and mold problems.

STATUS OF PAST RECOMMENDATIONS

Several agencies and consultants have inspected the facility or reviewed documentation regarding the mold and moisture problems at the Detroit Air Traffic Control Tower. The key recommendations focused on:

1. Sealing the building envelope to prevent moisture from entering the building.
2. Making improvements to the building's heating, ventilation, and air conditioning systems to prevent condensation within the facility.
3. Removing areas of visible mold growth and remediating areas of the facility.
4. Preventing wicking of moisture into wallboard surfaces by having at least a 1/4" gap above tower floor slab surfaces.
5. Removing materials that could become food sources for mold from the tower.
6. Conducting ongoing inspections of the facility for moisture and mold growth.

While FAA has made progress to implement the corrective actions, many key expert recommendations remain incomplete. FAA has sealed the tower structure to prevent moisture

intrusion, reconfigured and improved the tower's ventilation systems to help prevent condensation and removed mold and molded materials from areas where it was found. However, several improvements and moisture control recommendations from the 2005 Jacobs Engineering Moisture Assessment Report remain incomplete. For a time FAA did conduct inspections of the elevator shaft for the return of moisture and mold growth, but these inspections have stopped. Moisture and leaks are still entering the facility from the base building roof, wall board surfaces are still contacting the concrete floor slab in unoccupied levels of the control tower, and the condensation and moisture problem continued allowing the return of mold growth on the 9th and 4th floors. Furthermore, at the time of our site visit FAA installed a "memory card" into the HVAC controls to activate the humidity and temperature sensors within the building. It is unclear why these sensors were not activated sooner, seeing their importance in monitoring the temperature and humidity levels in the tower to help identify and prevent condensation. The attached Appendix A of this report lists the status of the past expert recommendations submitted to FAA.

WHISTLEBLOWER EMPLOYEE INTERVIEWS

Former and current Air Traffic Control Specialists Vincent Sugent, Elizabeth Dale, and David Parker were interviewed as part of the investigation to obtain a clear understanding of their health symptoms and concerns regarding mold and moisture at the facility. The whistleblowers stated that as air traffic controllers they work 8-10 hour shifts inside the air traffic control tower cab. The majority of their time is spent directly at the top of the tower in the cab area, or one level below within the Junction Level break room. The employees attend meetings or visit other levels of the base building for short periods of time as necessary.

The three whistleblowers reported experiencing similar health symptoms such as: respiratory illnesses, asthma, laryngitis, headaches, coughs, elbow pain, sneezing, and short term memory loss. The whistleblowers have all sought medical treatment for their health issues and report some level of improvement. Two of the individuals have been through a treatment plan using the medication cholestyramine. None of the whistleblowers indicate that they had previous allergies or have been tested to see if they are allergic to mold. They do report to have ongoing health problems and may be sensitized to mold spores that they would experience within the facility, or elsewhere.

Each of the whistleblowers expressed concern with the thoroughness of the efforts that FAA has taken to remove mold from the facility and prevent moisture leaks. They claim that mold is still present within the facility and that it needs to be properly removed. All three individuals stated they believe other FAA employees working at the facility are experiencing similar health problems, but do not report their symptoms for fear of losing their jobs. FAA's air traffic controllers must complete an annual medical evaluation and report any health symptoms and medications that they are taking. The whistleblowers indicate that local FAA management issued a memorandum that employees are not to abuse sick leave and that air traffic controllers are hesitant to use sick leave or report all of their health problems during their annual medical evaluations.

EMPLOYEE INJURIES AND ILLNESSES

OSHA Form 300A, Summary of Work-Related Injuries and Illnesses for the Detroit air traffic control tower were obtained and reviewed for trends. Approximately 160 employees work at the facility, 135 are air traffic controllers and 35 are technical operations employees. See Appendix B for a detailed breakdown of employee illnesses and injuries.

Year	Number of Employee Injuries and Illnesses	Percent of Total
2004	4	14.8%
2005	12	44.4%
2006	7	30.0%
2007	2	7.4%
2008 (1/01/08-6/23/08)	2	7.4%
Total	27	100%

The following trends were noted with FAA employees working at the facility.

- Since January 1, 2004, 27 total injuries and illnesses have been reported at the Detroit Air Traffic Control Tower. 74.4% of the cases occurred in 2005 and 2006.
- Since January 1, 2004, 56% of the reported employee injuries and illnesses appear to have been related to poor indoor air quality, mold, or respiratory illness. These cases all appear to have occurred in 2005 and 2006 during the majority of mold remediation efforts that were conducted within the facility.
- Employees were not reporting cases related to indoor air quality, mold, or respiratory illness prior to 2005, or in 2007 and 2008.
- 2004 - No reported employee injuries or illnesses related to indoor air quality, mold, or respiratory illnesses.
- 2005 - 12 employee illnesses related to indoor air quality, mold, or respiratory illness. 100% of cases were air traffic controllers. 58% of the cases were directly related to the January 22, 2005 attempt to clean mold from surfaces of the elevator shaft using a biocide chemical.
- 2006 - 3 employee injuries/illnesses were possibly related to air quality or mold in the facility. These air traffic controllers had skin rashes, difficulty breathing, or eye irritation and swelling.
- 2007 - No employee injuries or illnesses related to indoor air quality, mold, or respiratory illnesses.
- 2008 (January 1, 2008 - June 23, 2008) - One TRACON employee became ill due to fumes and odors from a computer electrical fire. No employee injuries or illnesses related to mold or respiratory illnesses were recorded.

Based on the injury and illness data reviewed, FAA employees working at the Detroit air traffic control tower did experience respiratory illnesses related to indoor air quality in 2005 and 2006. The majority of these cases were directly related to chemical odors from elevator shaft cleaning efforts that took place on January 22, 2005. Injury and illness data from 2007 and 2008 indicates that FAA employees have not reported experiencing injuries and illnesses related to poor indoor air quality. The most recent case related to mold or air quality was reported on July 24, 2006, so

there has been no new related case for 2 years. This could be an indicator that air quality within the facility has not caused new respiratory illness cases in 2007 and 2008. The possibility does exist that air traffic controllers are not reporting air quality or mold related cases due to fear that they could lose their jobs. The whistleblowers claimed that air traffic controllers are reluctant to report certain health symptoms and medications they are using for fear of not passing their medical clearance examinations. It is noted that the Federal worker's compensation system is designed as a no fault system to protect Federal employees that sustain work related injuries or illnesses. Based on the review of employee injuries and illnesses, whistleblower interviews, and direct observation of conditions with the Detroit air traffic control tower and base building, this investigative team is in agreement with the findings in the July 24, 2006, health hazard evaluation by the National Institute for Occupational Safety and Health (NIOSH), which states:

"When considered collectively, the various reports and documents provided to NIOSH describe a situation whereby leaks in the building envelope had allowed water to enter the ATCT, wick into drywall, and create a suitable substrate for mold growth. Mold contamination on drywall resulted in employees' health concerns. This situation has existed since sometime in 2004 (possibly earlier), and can be expected to continue or recur until all leaks have been repaired, HVAC deficiencies corrected, and all mold sources located and successfully remediated. Until this remediation takes place, the employees who experience upper airway symptoms when exposed to mold may continue to experience them."

FINDINGS

1. The visual inspection conducted on May 19 and 20 revealed that the mold and moisture problems at the DTW air traffic control facility have not been fully remediated. Specifically, we found:

- Inspections of tower wall cavities on the outside of the elevator shaft revealed apparent mold growth on the 9th and 4th floors.¹
- Visible mold was discovered on new drywall that had been installed in the remediation area in room 928 of the tower (both in the external tower wall and elevator shaft wall cavities). Additionally, visible mold was observed on the back side of the green wallboard elevator shaft inside the wall cavity in 928. The mold appeared to be related to moisture wicking up the new drywall that was in contact with the concrete floor slab. The amount of visible mold was small, less than 10 square feet.
- A very small amount of visible mold was also observed in room 428 on the green wallboard elevator shaft inside the wall cavity. No visible mold was observed in the new drywall that was installed in the remediation area in room 428. The amount of visible mold was small, less than 10 square feet.
- In many areas of the tower, drywall is in direct contact with the concrete floor surface.
- The base building roof is leaking badly in several areas. Catch pans and a funnel were observed above the drop ceiling in an attempt to catch rain water and snow melt that is entering the building.

¹ On June 9-12, 2008, FAA conducted its own inspection of the Detroit air traffic control tower wall cavities and has identified additional locations that have mold contamination.

- Approximately 20 stained ceiling tiles were observed to have been recently removed from the facility. These tiles had become wet from base building roof leaks. FAA management indicated that stained/wet ceiling tiles are removed and replaced as a part of routine maintenance.
- A visual inspection of the tower elevator shaft revealed no visible mold growth. Areas where past cleaning had been completed were evident. There was visual evidence of past moisture tracking down the shaft wall. No moisture or condensation was observed in the elevator shaft at the time of the inspection. The shaft did not appear to be a conduit or active pathway for mold spores to travel within the facility. Notes and photographs from the visual inspection are contained in Appendix C.

2. Air Monitoring Results revealed that indoor fungal concentrations were insignificant when compared to concentrations outdoors. Stachybotrys spores were detected on the ninth and fourth unoccupied levels. The Stachybotrys spores are significant in such that they are an indicator that the tower has had a chronic moisture control problem.

Bioaerosol samples were collected at two base building locations, five tower locations, and outdoors for comparison. The sampling was conducted at two different time periods on May 20, 2008, beginning at approximately 8:30AM and 11:30AM. The concentrations of airborne fungal spores detected was considered insignificant and do not indicate elevated mold spore concentrations within the facility.

The fungus *Stachybotrys* was detected on the 9th and 4th floors of the air traffic control tower and was likely detected in these areas due to the wallboard panels that were removed and visible mold that was discovered. *Stachybotrys* is a mold spore that is not commonly found indoors and is an indicator of chronic moisture intrusion. *Stachybotrys* produces a sticky spore that is not easily airborne, unless disturbed. Mold spore concentrations within the air traffic control tower cab were observed to be much lower than mold spore concentrations found outdoors. This is a good indicator that the building's ventilation systems are properly filtering out mold spores. The elevator shaft itself does not appear to be an effective conduit to spread mold spores throughout the air traffic control tower. Higher spore concentrations were found on the 9th and 4th floors of the tower, in areas where we disturbed molded drywall materials. If the tower elevator shaft were effective in disbursing fungal spores, higher concentrations of mold spores would have been evident in the tower cab, Junction level break room, or inside the base building. Likewise, if the elevator shaft was an effective pathway for mold spores to spread, it could be concluded that the disturbed *Stachybotrys* spores would have spread to other floors or other areas of the facility. Spread of *Stachybotrys* spores was not observed or concluded from the air monitoring results. While the finding of *Stachybotrys* spores is significant because it is an indicator that there is or has been a chronic moisture problem in the tower, it does not pose a health hazard more than any other mold or fungal spore that individuals can become sensitized to.

Mold spore and air quality measurements were collected in the following locations:

- Air Traffic Control Tower Cab
- Junction Level (Break Room, and Debriefing Room)
- 10th Floor. Room 1028 (former Union office)
- 9th Floor. Room 928

- 4th Floor. Room 428
- 2nd Floor, Base Building. TRACON Radar Room 212
- 1st Floor, Base Building. Open area outside of Room 109
- Outside – On top of 2nd Floor Base Building near air intakes.
- Outside – On ground level of Base Building near air intakes.

Other measured data for temperature, relative humidity, carbon monoxide, carbon dioxide, and airborne particles did not reveal any indicators of indoor air quality problems. All recorded measurements were within legal, regulatory limits and within or insignificantly below ASHRAE recommended ranges. Detected airborne particle counts were insignificant for each size range and not significant when compared to outdoor levels. The industrial hygiene report and air sampling results are contained in Appendix D.

RECOMMENDATIONS

By October 1, 2008, the Administrator of the Federal Aviation Administration shall provide a written response to the Secretary of Transportation for each of the recommendations submitted below. Written responses shall include actions the agency has taken to comply with the recommendation and list the dates that such corrective actions were completed.

Air Traffic Control Tower Mold / Moisture Recommendations

- A. **Conduct a comprehensive inspection of the wall cavities on every floor of the air traffic control tower, making sure to inspect the wall cavity from the unoccupied room side of the elevator shaft.** The inspection should look for evidence of mold contamination, condensation, and moisture intrusion.

- B. **Based on the comprehensive inspection, remove all visibly contaminated (molded and water damaged porous materials) from the air traffic control tower.** Non porous substrates (such as metal studs or concrete materials) can be cleaned to remove visible mold growth. Do not use a biocide to clean the materials. Dispose of and replace building materials necessary. Place a sticky sided contact paper on top of visible mold to minimize the chance of mold spores becoming airborne during removal. Wallboard materials should be cut out 18 inches beyond the edge of where visible mold growth and water damage was discovered. The remediation of the mold and water damaged materials must be conducted in a similar manner as asbestos abatement. This would include setting up plastic sheeting and a negative-air machine equipped with HEPA filtration to contain and filter any airborne fungal spores that are released during cleanup. A written safety control plan for the mold remediation shall be developed to identify and control any safety hazards associated with the remediation work. Strong consideration should be given to conducting the remediation work at night to minimize the number of potential employees impacted. Care should be taken to at a minimum adhere to the Environmental Protection Agency's *Table 2: Guidelines for Remediating Building Materials with Mold Growth Caused by Clean Water*
<http://www.epa.gov/mold/table2.html>

- C. **Develop a mold remediation project communication plan for the facility to improve communication efforts between FAA management and union employees.** Items such as memorandums and safety meetings are needed to educate employees about the mold discovered within the air traffic control tower and the safety control efforts that will be implemented to remedy the conditions. These meetings will provide employees an opportunity to voice their concerns, and allow FAA management to demonstrate that efforts are being implemented to ensure the safety and health of all working within the facility.
- D. **Remove all unnecessary wallboard and carpeting from unoccupied areas of the air traffic control tower.** Wallboard necessary to maintain the required fire ratings may be left in place. Remove any wallboard currently in contact with concrete floors in the unoccupied levels of the air traffic control tower. New wallboard materials that are installed must have at least a one half inch gap from the concrete floor slab or be provide with a strip of silicone caulking at the concrete/wallboard junction to prevent condensation and/or moisture intrusion from wicking into the wallboard.
- E. **Evaluate the fire rating of cement backer board and mold resistant / paperless wallboard.** Use such materials as a substitute for the removed paper faced wallboard in the air traffic control tower. Wallboard with paper could act as a future food source for mold, should condensation or moisture intrusion return.
- F. **Continue efforts to prevent moisture intrusion into the air traffic control tower and prevent condensation from forming.** Implement the recommendations that were submitted to FAA within the Jacobs Engineering moisture assessment report dated August 31, 2005. This report recommends HVAC improvements and moisture control items that were still not implemented at the date of our 5/19-20/2008 investigation. Such uncompleted recommendations include:
1. Installing a cooling coil into the ductwork to remove moisture from the outside air that is brought into the building.
 2. The bottom edge of gypsum wallboard should be cut back approximately ¼" above the floor slab to prevent wicking or moisture into the panel. An appropriate fire rated sealant should be installed between the slab and gypsum wallboard.
 3. Eliminate situations where moist, warm air is allowed to contact cool surfaces.
 4. Recommend removal of the drywall from all the "storage" rooms in the tower.
- G. **Actively monitor moisture levels in the elevator shaft and unoccupied areas of the air traffic control tower and implement corrective actions as necessary.** Use the data collected from the temperature and relative humidity sensors that have been installed in the elevator shaft and unoccupied areas of the tower to identify places of differing temperature and relative humidity. Large fluctuations of temperature and relative humidity levels between the elevator shaft and unoccupied areas of the tower, could cause condensation on wall surfaces or lead to condensation on hot/cold water lines or heating and cooling ductwork.

- H. **Review the policies at FAA's Detroit air traffic control tower to ensure that employees are encouraged to report work-related health and medical problems.** Management should create an environment that promotes the prompt reporting of work-related injuries, illnesses and health symptoms and openly support the taking of approved sick leave when necessary in accordance with FAA's policies and union agreements.
- I. **Conduct an employee health symptom survey to provide an opportunity for employees working at the facility to openly express their health and medical symptoms without fear.** This survey should be conducted by an agency independent of the FAA, such as NIOSH, Federal Occupational Health, or a local occupational health clinic. This survey may be useful in identifying groups of ill employees working in an identical location, or with similar health symptoms. As a result of the survey, any employees expressing health symptoms should be encouraged to seek medical attention from an appropriate physician. A follow-up health survey should be conducted after the mold remediation and moisture problems have been corrected to document if employee health problems have improved. Ideally, there should be a correlated reduction in employee health symptoms after mold and moisture have been removed from the facility.
- J. **Evaluate other FAA air traffic control towers for mold and moisture infiltration problems.** The Detroit Metropolitan Airport air traffic control tower is of a Leo Daly design. FAA operates other Leo Daly designed towers of similar construction and characteristics. It is prudent for FAA to inspect these other towers to determine if similar mold and moisture problems exist at those facilities. FAA shall report back to the Secretary of Transportation in writing with their findings at other tower facilities by October 31, 2008.

Base Building Roof Moisture Recommendations

- K. **Replace the leaking base building roof.** Ensure adequate control measures are in place (such as de-energizing air handlers and sealing outside air intakes) to safely prevent infiltration of airborne chemical contaminants from outside the building. A thorough pre-construction survey and written safety control plan shall be conducted to identify any ways that the roofing project could negatively impact FAA employees working within the air traffic control tower or base building. Strong consideration should be given to conducting the roof replacement during night hours so as to impact as few FAA employees as possible. If TRACON workers may be negatively impacted, consider moving such operations to a temporary alternate location while the roofing repairs are being made.
- L. **Continue to immediately remove and replace water damaged building materials as necessary.** Items such as wet and stained ceiling tiles, insulation, and wallboard must be promptly removed so as not to provide a food source for mold growth. When water damaged materials are discovered, an investigation shall be made to identify the moisture source and correct it.

M. Develop a roof project communication plan for the facility to improve communication efforts between FAA management and union employees. Items such as memorandums and safety meetings are needed to educate employees about the roof replacement project and the safety control efforts that will be implemented throughout the project. These meetings will give employees an opportunity to voice their concerns, and allow FAA management to demonstrate that efforts are being implemented to ensure the safety and health of all working within the facility.



WONDER MAKERS
ENVIRONMENTAL

June 2, 2009

Mr. Vince Sugent
7768 Pleasant Lane
Ypsilanti, MI 48197

RE: Content comparison of two documents, dated July 15, 2008, and August 21, 2008, both entitled Investigation of Mold and Moisture at the Federal Aviation Administration Detroit Metropolitan Air Traffic Control Tower Facility. Wonder Makers Environmental project GC09-8593

Dear Vince:

As you are aware, NATCA, through the Office of Special Counsel (OSC), has requested a copy of an inspection report detailing results from a wall cavity inspection that was conducted in the Detroit tower (DTW ATCT) by the FAA on June 9-12, 2008. The report was referenced in a footnote on page 9 of a document entitled Investigation of Mold and Moisture at the Federal Aviation Administration Detroit Metropolitan Air Traffic Control Tower Facility, dated August 21, 2008.

An initial review of this document determined that it was not the report requested by the OSC, but rather was an earlier version of the Investigation of Mold and Moisture at the Federal Aviation Administration Detroit Metropolitan Air Traffic Control Tower Facility, dated July 15, 2008.

The fact that the Agency didn't send the requested document could mean that someone simply made a mistake, or the Agency sent the wrong document as a stall tactic. Based on the past level of cooperation by the Agency we suspect that the latter explanation may be closer to the truth.

One needs only look at the two documents, both entitled Investigation of Mold and Moisture at the Federal Aviation Administration Detroit Metropolitan Air Traffic Control Tower Facility, to realize that a significant amount of editing was done by the Agency before releasing them. The copy dated July 15, 2008, contains substantial material that is missing from the August 21, 2008, copy that we received in November 2008. Also, the August copy contains material that was not included in the July document. Much of content that was added to the August document seems to soften the findings of the investigation team. The Agency was unwilling to let the original report stand on its own merits.

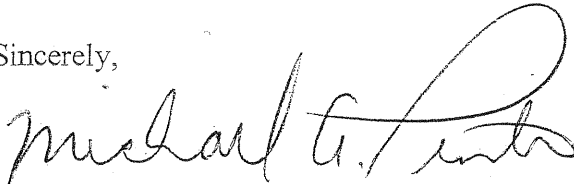
An important item that was deleted from the July document includes two recommendations that suggest an employee health survey might be useful in determining

the symptoms of employees working at the DTW ATCT and base building. Interestingly, Wonder Makers Environmental has made the same recommendation for several years, however, the FAA has refused to authorize such survey.

The attachments with this letter describe the changes made to the July 15 document, either deleted or added, in order to create the August 21 version. Attachment 1 describes the items that were deleted from the July version. Attachment 2 describes the items that were edited/added to the August version. Since we previously commented extensively on the August 21, 2008, version of this document we have kept our comments to a minimum to let the significance of editing that minimizes the situation stand out. In the few instances where we have chosen to comment it will appear in a different font.

As always, we appreciate the opportunity to assist NATCA in its efforts to make the Detroit Metro facility a safe and healthy environment for all persons working in these buildings.

Sincerely,

A handwritten signature in cursive script, appearing to read "Michael A. Pinto".

Michael A. Pinto, CSP, CMP
CEO

Attachment 1

The following items were included in the July 15, 2008, Investigation of Mold and Moisture at the Federal Aviation Administration Detroit Metropolitan Air Traffic Control Tower Facility, but did not appear in the version dated August 21, 2008. All page references are from the July document unless otherwise stated.

1. On page 3 there were two sentences at the end of the final bullet that said “FAA should conduct an employee health symptom survey to provide an opportunity for employees at the facility to openly express their health and medical symptoms without fear. A follow-up survey should be conducted after the mold remediation and moisture problems have been corrected to document if employee health problems have improved.”
2. On page 5 under STATUS OF PAST RECOMMENDATIONS the first sentence in the second paragraph read, “...many key expert recommendations remain incomplete.” In the August version the word “many” is missing so that the sentence now reads, “...key expert recommendations remain incomplete.”
3. On page 6 the third complete sentence in the paragraph at the top of the page was deleted from the August report. The sentence stated, “Moisture and leaks are still entering the facility from the base building roof, wall board surfaces are still contacting the concrete floor slab in unoccupied levels of the control tower, and the condensation and moisture problem continued allowing the return of mold growth on the 9th and 4th floors.”
4. Pages 10 through 13 list recommendation from the unknown author. Recommendation I on page 12 was deleted from the August report. The recommendation read as follows:

Conduct an employee health symptom survey to provide an opportunity for employees working at the facility to openly express their health and medical symptoms without fear. This survey should be conducted by an agency independent of the FAA, such as NIOSH, Federal Occupational Health, or a local occupational health clinic. This survey may be useful in identifying groups of ill employees working in an identical location, or with similar health symptoms. As a result of the survey, any employees expressing health symptoms should be encouraged to seek medical attention from an appropriate physician. A follow-up health survey should be conducted after the mold remediation and moisture problems have been corrected to document if employee health problems have improved. Ideally, there should be a correlated reduction in employee health symptoms after mold and moisture have been removed from the facility.

Attachment 2

Following are items from the July version of Investigation of Mold and Moisture at the Federal Aviation Administration Detroit Metropolitan Air Traffic Control Tower Facility that were edited or added to the August version. Major edits or additions appear in italicized type unless otherwise noted. Wonder Makers Environmental's comments appear within brackets.

The following changes were made to the EXECUTIVE SUMMARY section:

1. The 4th item in the bulleted list did not appear in the July report. The added bullet reads, "*All wallboard was observed to be dry within the air traffic control tower. However, the observation of mold growth in the tower, despite past remedial efforts, indicates that the tower continues to have a chronic moisture control problem.*"
2. The 7th bullet in the July version read, "The measured airborne fungal spores detected within the facility does not indicate elevated mold spore concentrations." In the August version this entry is the 8th bullet and now reads, "The measured airborne fungal spores detected within the facility does not indicated elevated mold spore concentrations *that would be likely to adversely impact employee health.*" [The sample results were not included with the document and should be submitted to OSC and NATCA.]
3. A new 9th bullet was added to the August version that reads, "*The highest indoor concentrations of airborne fungal spores were noted in the unoccupied rooms 928 and 428 of the tower. This correlation is likely due to the air monitoring occurring after the wall cavities were cut open and molded materials observed. It should be noted that the 9th floor and 4th floor of the tower are unoccupied and that airborne fungal spore concentrations within the tower cab, break room, and base building were all much lower than concentrations found outdoors.*"
4. The 8th bullet in the July version, now the 10th bullet in the August version, noted that "The spore *Stachybotrys* was detected within unoccupied areas of the facility..." The edited bullet in the August version reads, "The spore *Stachybotrys* was detected within unoccupied areas of the *tower* facility..."
5. The 9th bullet in the July version, now the 11th bullet in the August version, read, "Other measured air quality data for temperature, relative humidity, carbon monoxide, carbon dioxide, and airborne particles did not reveal any indicators of poor indoor air quality." The August version reads, "Other measured air quality data for temperature, relative humidity, carbon monoxide, carbon dioxide, and airborne particles did not reveal any indicators of poor indoor air quality *in either the tower or base building.*"
6. The 10th bullet in the July version, now the 12th bullet in the August version, read, "A review of employee injury and illness data revealed..." The August version was

changed to, "A review of *OSHA 300 log* employee injury and illness data revealed..."

7. The 11th bullet in the July version, now the 13th bullet in the August version, was completely revised and added to. The bullet in the July version read, "There does not appear to be ongoing employee injuries or illnesses due to mold, indoor air quality, or respiratory issues. The most recent case related to mold or air quality was reported almost 2 years ago, on July 24, 2006." The revised entry in the August document reads, "*The most recent OSHA 300 log case related to mold or air quality was reported almost 2 years ago, on July 24, 2006. However, at least 15 employees, including the whistleblowers, claim that they continue to suffer adverse health effects due to the mold and moisture problems within the facility.*"
8. The third sentence in the 12th bullet in the July version, now the 14th bullet in the August version, read, "Areas where previous mold growth had occurred and been remediated were observed to have moisture intrusion and visible mold growth again." The sentence in the August version reads, "Areas *in the tower* where previous mold growth had occurred and been remediated were observed to have *evidence of past* moisture intrusion and visible mold growth again." A 4th sentence was added, which reads, "*While the building materials were observed to be dry in the tower at the time of our inspection, the mold growth indicates that moisture intrusion or condensation continued, despite past remedial efforts.*"

The following difference was found in the METHODOLOGY section:

9. The July version indicated that the member of the investigative team identified as the "Departmental Safety and Occupational Health Manager" was a CIH. The August report does not assign this person that designation. [This lack of consistency may not be a major cause for concern but an explanation would be helpful.]

The following change was found in the BACKGROUND section:

10. The second sentence of the third paragraph was changed. The July version read, "The conclusions of these experts indicated that the building did have evidence of moisture intrusion and mold growth, that employees may be experiencing health effects, and that actions were necessary to stop moisture from entering the facility, that visible mold needed to be remediated, and that improvements must be made to the building's heating, ventilation, and air conditioning systems to prevent moisture condensation." The August version reads, "The conclusions of these experts *generally* indicated that the *air traffic control tower* building did have evidence of moisture intrusion and mold growth, that employees may be experiencing health effects, and that actions were necessary to stop moisture from entering the *structure*, that visible mold needed to be remediated and that improvements must be made to the *tower's* heating, ventilation, and air conditioning systems to prevent moisture condensation."

The following change was found in the STATUS OF PAST RECOMMENDATIONS section:

11. The entire section after the numbered list in the July version was revised and reformatted in the August version. The July document reads as follows, with sections that were deleted from the August version in bold type:

While FAA has made progress to implement the corrective actions, **many** key expert recommendations remain incomplete. FAA has sealed the tower structure to prevent moisture intrusion, reconfigured and improved the tower's ventilation systems to help prevent condensation and removed mold and molded materials from areas where it was found. However, several improvements and moisture control recommendations from the 2005 Jacobs Engineering Moisture Assessment Report remain incomplete. For a time FAA did conduct inspections of the elevator shaft for the return of moisture and mold growth, but these inspections have stopped. **Moisture and leaks are still entering the facility from the base building roof, wall board surfaces are still contacting the concrete floor slab in unoccupied levels of the control tower, and the condensation and moisture problem continued allowing the return of mold growth on the 9th and 4th floors.** Furthermore, at the time of our site visit FAA installed a "memory card" into the HVAC controls to activate the humidity and temperature sensors within the building. It is unclear why these sensors were not activated sooner, seeing their importance in monitoring the temperature and humidity levels in the tower to help identify and prevent condensation. The attached Appendix A of this report lists the status of the past expert recommendation submitted to FAA.

The August report reads as follows:

While FAA has made progress to implement the corrective actions, key expert recommendations remain incomplete. FAA has sealed the tower structure to prevent moisture intrusion, reconfigured and improved the tower's ventilation systems to help prevent condensation and removed mold and molded materials from areas where it was found. However several improvements and moisture control recommendations from *expert reports* remain incomplete.

- For a time FAA did conduct inspections of the elevator shaft *liner* for the return of moisture and mold growth. *FAA, however, stopped these inspections because no mold or moisture was found. Applied Environmental recommended at least annual inspections be performed.*
- *Federal Occupational Health recommended that on occurrence of moisture intrusion, determine and correct the source of moisture infiltration. While much has been done to seal moisture from*

intruding into the air traffic control tower, the base building roof has had ongoing leaks and is scheduled for replacement.

- *Jacobs Engineering recommended that tower wallboard surfaces not contact the concrete floor slab to prevent wicking of moisture. Furthermore, Jacobs recommended removing the drywall from the unoccupied storage rooms of the tower. Such paper-faced wallboard may become a food source for mold growth should moisture return.*
- *At the time of the site visit FAA installed a “memory card” into the HVAC controls to allow long-term data collection of the humidity and temperature sensors within the tower. It is unclear why the data logging was not activated sooner, seeing the importance in monitoring the temperature and humidity levels in the tower to help identify and prevent condensation. The attached Appendix A of this report lists the status of the past expert recommendations submitted to FAA.*

The following changes were found in the EMPLOYEE INJURIES AND ILLNESSES section:

12. The paragraph after the bulleted list was revised in the August version with various edits, an added sentence, and a new footnote, as well as two entirely new paragraphs that were added at the end of the section. The paragraph in the July version reads as follows:

Based on the injury and illness data reviewed, FAA employees working at the Detroit air traffic control tower did experience respiratory illnesses related to indoor air quality in 2005 and 2006. The majority of these cases were directly related to chemical odors from elevator shaft cleaning efforts that took place on January 22, 2005. Injury and illness data from 2007 and 2008 indicates that the FAA employees have not reported experiencing injuries and illnesses related to poor indoor air quality. The most recent case related to mold or air quality was reported on July 24, 2006, so there has been no new related case for 2 years. This could be an indicator that air quality within the facility has not caused new respiratory illness cases in 2007 and 2008. The possibility does exist that air traffic controllers are not reporting air quality or mold related cases due to fear that they could lose [*sic*] their jobs. The whistleblowers claimed that air traffic controllers are reluctant to report certain health symptoms and medications they are using for fear of not passing their medical clearance examinations. It is noted that the Federal worker's compensation system is designed as a no fault system to protect Federal employees that sustain work related injuries or illnesses. Based on the review of employee injuries and illnesses, whistleblower interviews, and direct observation of conditions with the Detroit air traffic control tower and base building, this investigative team is in agreement with the findings of the July 24, 2006, health hazard evaluation by the National Institute of Occupational Safety and Health (NIOSH), which states...

The revised paragraph and footnote appear as follows in the August version:

Based on the *Occupational Safety and Health Administration 300 log* injury and illness data, FAA employees working at the Detroit air traffic control tower *experienced* respiratory illnesses related to indoor air quality in 2005 and 2006. The majority of these cases were directly related to chemical odors from elevator shaft cleaning efforts that took place on January 22, 2005. *OSHA 300 log* injury and illness data from 2007 and 2008 indicates that *zero FAA employees experienced* injuries and illnesses related to poor indoor air quality. The most recent *OSHA recorded* case related to mold or air quality was reported on July 24, 2006, so there has been no new related case for 2 years. This could be an indicator that air quality within the facility has not caused new respiratory illness cases in 2007 and 2008. *Alternatively, the possibility exists* that air traffic controllers are not reporting air quality or mold related cases due to fear that they could loose [*sic*] their jobs *or for other reasons*. The whistleblowers *claimed* that air traffic controllers are reluctant to report certain health symptoms and medications they are using for fear of not passing their medical clearance examinations. *The whistleblowers all maintain that they continue to experience adverse health effects from exposure to mold and moisture in their work environment.*¹ It is noted that the Federal worker's compensation system is designed as a no fault system to protect Federal employees that sustain work related injuries or illnesses. Based on the review of employee injuries and illnesses, whistleblower interviews, and direct observation of conditions with the Detroit air traffic control tower and base building, this investigative team is in agreement with the findings in the July 24, 2006, health hazard evaluation by the National Institute of Occupational Safety and Health (NIOSH), which states...

Footnote:

¹*Vincent Sugent, one of the whistleblowers, submitted documentation from his physician, Dr. Richard Shoemaker, in which Dr. Shoemaker describes medical treatment he is providing to a cohort of 15 employees at the DTW air traffic control facility. Dr. Shoemaker opines in this document that there is a defined association between exposure to the workplace and the employee's health symptoms. He also reports that those members of the cohort who are following his treatment recommendation are much improved. In addition, on August 12, 2008, Mr. Sugent provided information that he and other controllers are continuing to experience adverse health effects in the workplace and that one employee had reported adverse health effects to a flight surgeon and had his medical certificate withdrawn.*

[How is it that a report from an inspection that occurred in May 2008 includes information garnered by the Agency in August? Was this report a living document

that changed at the whim of the Agency or was it supposed to accurately describe conditions that were found in May?]

The two new paragraphs read as follows (fonts are used as they appear in the August version):

Subsequently, when additional medical information for six Detroit Metropolitan Airport air traffic control tower employees was provided to NIOSH in 2006, the agency made the following reply to FAA in a letter dated January 11, 2007:

“Although the six records identified employees with respiratory health effects that may be associated with mold exposure, the added information does not change the conclusions or the recommendations we noted in the letter sent to you on July 24, 2006. We believe that the implementation of our initial recommendations should be sufficient to eliminate the factors that make the environment conducive [sic] for mold growth and also prevent further employee exposure. Because of the lack of specificity of the medical findings, the statistical problems associated with studying a small population, and the lack of any added benefit from carrying out an extensive mold study at the control tower, we have decided not to reopen this evaluation. We encourage management to implement our recommendations and affected employees to continue to seek care from their healthcare providers in the management of their health problems and concerns.”

The following changes were made in the FINDINGS section:

13. The italicized wording was added to the end of the first bulleted item under finding #1 in the August version: “Inspections of tower wall cavities on the outside of the elevator shaft revealed apparent mold growth on the 9th and 4th floors, *which are unoccupied floors of the tower.*”
14. A bulleted item was added to finding #1 in the August version (4th bullet) that reads, “*All observed wallboard in the air traffic control tower was observed to be dry at the time of the survey. Wallboard in rooms 928 and 428 of the tower did show past evidence of moisture intrusion that allowed mold to return after previous remediation efforts.*”
15. The 6th bullet under finding #1 in the July version, which is the 8th bulleted item under finding #1 in the August version, was edited. The July version noted, “Approximately 20 stained ceiling tiles were observed to have been recently removed from the facility.” The edited August version reads, “Approximately 20 stained ceiling tiles were observed to have been recently removed from the *base building* facility.”
16. The last sentence in the first paragraph under finding #2 was edited. The July version reads, “The concentrations of airborne fungal spores detected was considered

insignificant and do not indicate elevated mold spore concentrations within the facility.” The August version was edited to read, “The concentrations of airborne fungal spores detected was considered insignificant and do not indicate elevated mold spore concentrations within the *tower or base building that would be likely to adversely impact employee health.*”

The following changes were found in the RECOMMENDATIONS section:

17. In the July version the author noted that “By October 1, 2008, the Administrator of the Federal Aviation Administration shall provide a written response to the Secretary of Transportation for each of the recommendations submitted below.” The August version was edited to read, “By *October 15, 2008*, the Administrator of the Federal Aviation Administration shall provide a written *report* to the Secretary of Transportation *on the status* of the recommendations submitted below.”
18. Recommendation D under Air Traffic Control Tower Mold/Moisture Recommendations was edited. The July version reads in part, “**Remove all unnecessary wallboard and carpeting from unoccupied areas of the air traffic control tower.** Wallboard necessary to maintain the required fire ratings may be left in place. Remove any wallboard currently in contact with concrete floors in the unoccupied levels of the air traffic control tower.”

The August version reads, “**Remove all unnecessary wallboard and carpeting from unoccupied areas of the air traffic control tower and remove any wallboard currently in contact with concrete floors.** *Paper faced wallboard is a potential food source for mold growth should the wallboard become wetted from moisture intrusion or condensation. Undamaged or molded wallboard necessary to maintain the required fire ratings may be left in place. Remove any wallboard currently in contact with concrete floors in the unoccupied levels of the air traffic control tower.*”

19. The following comment (italicized) was added to recommendation F.1.: 1. Installing a cooling coil into the ductwork to remove moisture from the outside air that is brought into the building. *FAA may need to make the financial commitment necessary to increase the tower’s cooling capacity by installing appropriately sized or additional chiller equipment.*

2

APPENDIX A: SUMMARY OF PAST RECOMMENDATIONS

6/13/2007

Applied Environmental, Inc.

1. Remain vigilant for any new cases of water leakage or incursion events. Take prompt action to assess and dry affected materials. *Status - Incomplete. Prompt action has not been taken to repair the leaking base building roof. Action has been taken to seal the joints and exterior of the tower structure and cab.*
2. Promptly investigate and correct the source of moisture and staining and replacing ceiling tiles in a timely manner. *Status - Incomplete. Ceiling tiles are replaced, but there has been a delay in repairing the base building roof leaks.*
3. Establish a routine inspection of the elevator shaft (on at least a yearly basis) to assure that water incursion and/or mold growth is not present. *Status - Incomplete. At one time FAA performed frequent inspections of the elevator shaft for water incursion and mold growth. FAA has since stopped the process after finding that mold and moisture did not recur.*

7/11/2006

Office of the Secretary of Transportation, Office of Inspector General

1. The FAA Administrator provide the requesting Members of Congress and the OIG with a list of the planned actions to complete mold remediation efforts and alleviate moisture infiltration at the facility and include the expected completion date for each project. *Status - Complete. The FAA provided the members of Congress with letters listing the planned actions to complete the mold remediation and moisture infiltration. Letters were sent on January 3, 2007.*²

6/24/2006

National Institute for Occupational Safety and Health

1. Inspect all locations where building materials may have become wet. Mold that is not actively growing can still present a hazard, and may resume growing when conditions become favorable. *Status - Incomplete. At the time of the survey, FAA had not performed wall cavity inspections in the walls surrounding the tower elevator shaft. Since mold was previously identified the 3rd, 4th, and 9th floors of the tower, it could be reasoned that conditions for mold and moisture could be found on other floors.*
2. Perform corrective actions recommended in the Jacobs Engineering Group report to help ensure that all sources of moisture are eliminated and the HVAC system operates properly. *Status - Incomplete. All recommendations from the Jacobs Engineering Report have not been completed. Not all wallboard has been replaced from the unoccupied tower rooms, wallboard is still touching the concrete floor deck, and a cooling coil has not been installed to take moisture out of air that is brought into the building's outside air intakes.*

6/19/2006

U.S. Department of Labor, Occupational Safety and Health Administration

² The OIG found that the FAA had taken actions to remove mold from the facility, but not alleviate the sources of moisture causing mold growth.

1. Eliminate all sources of water intrusion into the facility. Damp or wet building materials and furnishings should be cleaned and dried within 24-48 hours to prevent the growth of mold. *Status – Incomplete. Exterior sealing/caulking of the tower was completed November 2, 2006. The base building roof leaks badly and is in need of replacement.*
2. Maintain and operate the outside air ventilation system in accordance with design specifications. Provide 500 cfm of outside air to the cab and keep the cab under positive pressure through proper maintenance and operation of air handler numbers 13 and 14. All HVAC systems should be operated to keep the facility under positive pressure to prevent infiltration of unconditioned air. Pressurizing the lower floors will help minimize the stack effect in the elevator shaft and middle tower area. *Status – Complete. HVAC modifications completed February 2007 and FAA indicates the facility is at a positive pressure.*

5/05/2006

Federal Occupational Health

1. Continue to document and map all moisture intrusion events. *Status – Complete and ongoing.*
2. On occurrence of moisture intrusion, determine and correct the source of moisture infiltration. Abate any affected areas following properly developed and approved procedures using qualified and environmentally trained personnel. *Status – Incomplete. The leaking base building roof has yet to be replaced and repaired.*
3. Monitor and oversee all future fungal abatement activities from development to completion with proper documentation. *Status – Ongoing.*
4. Utilizing a HEPA vacuum, vacuum all surfaces within the elevator shaft under negative pressure and monitor for new occurrence of fungal growth. Should the decision be made to encapsulate these walls, verify any product used to assure that the integrity and "Fire Rating" status of the walls is not compromised. *Status – Completed 6/26/2006.*
5. Educate and inform employees of ongoing fungal abatement activities within the facility. *Status – Incomplete. Communication between FAA management and employees is strained. A large amount of distrust between both groups was observed. Additional efforts need to be made to bridge the communication and trust gaps.*
6. Investigate the facility link between the terminal and the FAA to determine the +/- pressure effect to the FAA. *Status – Complete. 2/2007 there was a positive pressure established in the FAA facility compared to the Terminal Building.*
7. Inspect and repair all expansion joint for failing caulking. Review data on replacement materials to ensure proper materials are utilized in repair efforts. *Status – Complete. Structure wall panels and caulking were replaced and building sealed to prevent moisture intrusion.*
8. Correct gypsum wallboard in contact with decking floor that would allow a "wicking" to occur should gross moisture intrusion occur. *Status – Incomplete. Wallboard is still in direct contact with the floor in many areas.*
9. To reduce the potential for microbial growth in the facility, the relative humidity should be adjusted and maintained within the ASHRAE recommended range of 30% to 60%. *Status – Complete. Temperature and relative humidity sensors were activated in the elevator shaft and tower floors on 5/19/2008. The documented average relative humidity levels during the site survey was within or insignificantly below the ASHRAE recommended range of 40%-60% for summer.*

8/31/2005

Jacobs Engineering – Moisture Assessment Report

1. All non-rated internal partitions and associated doors, frames, and hardware within the tower shaft should be removed. *Status – Complete. Doors and combustible items removed from unoccupied floors of the tower.*
2. The bottom edge of gypsum wallboard should be cut back approximately ¼” above the floor slab to prevent wicking of moisture into the panel. An approved, fire rated sealant should be installed between the slab and gypsum wallboard. A rubber vinyl wall base should also be installed to conceal the cut. *Status – Incomplete. Wallboard is still touching the floor slab in many areas of the tower.*
3. The shaft liner panels within the elevator shaft should be wet-wiped, cleaned, and may be painted. *Status – Complete. The shaft cleaning was completed on 5/26/2006.*
4. All vertical exterior pre-cast panel joints should have the sealant joints stripped, and appropriate new backer rod and sealant installed. *Status – Complete. The exterior caulking and sealing of the tower was completed on 11/2/2006.*
5. The concrete decks should have a fluid applied waterproof traffic membrane installed. *Status – Complete. The exterior caulking and sealing was completed on 11/2/2006.*
6. Reactivate the vestibule ventilation system and install a cooling coil into the ductwork to remove the moisture from the outside air. Put the tower under positive pressure to prevent untreated moisture and dust laden air entering into the facility. *Status – Incomplete. It is our understanding that a cooling coil has not been installed to remove moisture from outside air that is draw into the facility. Work has been done to bring the HVAC systems into compliance with ASHRAE guidelines.*
7. The entire HVAC system needs to be rebalanced to provide positive pressure at all times. *Status – Complete. 2/2007 there was a positive pressure established in the FAA facility compared to the Terminal Building.*
8. Close the air gap under the door to the ESD’s area. Presently unconditioned moisture laden outside air enters to the ESD’s control room increasing the loads on the newly installed AHU. *Status – Unknown. Improvements to the building HVAC system such as digital controls for the valves, balancing of the air flow, duct cleaning and changes in the make-up air have been performed. Further evaluation of the ATCT temperature/humidity conditions is being conducted prior to implementing further changes.*
9. Recommend removal of the drywall from all the “storage” rooms in the tower. *Status – Incomplete. Drywall in the unoccupied rooms of the tower is still in place and has not been removed.*
10. Assess mechanical ventilation system and improve operational control. Conduct a full assessment of the HVAC system to identify repairs and upgrades to properly control and operate the building ventilation in the tower. *Status – In Progress. Improvements to the HVAC system such as digital controls for the valves, balancing of the air flow, duct cleaning and changes in the make-up air have been performed. Further evaluation of the ATCT temperature/humidity conditions is being conducted prior to implementing further changes*
11. Conduct routine visual mold inspections. *Status - Incomplete. At one time FAA performed frequent inspections of the elevator shaft for water incursion and mold growth. FAA has*

since stopped the process after finding that mold and moisture did not recur. Periodic inspections should be resumed and documented.

12. Clean the interior elevator shaft wall surfaces by wet-wiping with a bleach solution. *Status – Complete. The shaft cleaning was completed on 5/26/2006.*
13. During periodic inspections, identify sources of moisture and correct to prevent reoccurrence. *Status – Complete. Except for the discontinued elevator shaft inspections, the facility is checked for sources of moisture on an ongoing basis.*
14. Remove gypsum wallboard where it is in contact with concrete floor to create a minimum 1/4" gap between the concrete floor and wallboard to prevent moisture wicking. *Status – Incomplete. Drywall in the tower is still in contact with the concrete floor.*
15. Check and evaluate waterproofing at exterior joints, corners, and structure penetrations to prevent water intrusion. *Status – Complete. The exterior caulking and sealing was completed on 11/2/2006.*
16. Check and ensure all chilled water and exterior drain pipes are properly insulated. *Status – Complete. Pipes and ductwork have been insulated in attempts to control condensation.*
17. Where there is recurring water damage, check building utilities for leaks or improper installations. *Status – Incomplete but in progress. The leaking base building roof is in the process of being replaced.*
18. Eliminate situations where moist, warm air is allowed to contact cool surfaces. *Status – Incomplete. Modifications have been made to the building's HVAC system and temperature and relative humidity sensors have been installed in the tower elevator shaft and in some unoccupied rooms of the tower. FAA is monitoring the data obtained from the sensors. The fact that mold has returned in areas where it was previously abated indicates that moisture and condensation problems may remain.*
19. Maintain floor areas clean by periodic cleaning, and eliminate unnecessary clutter and storage. *Status – Complete. Materials were removed from the unoccupied areas of the tower that were previously used as storage rooms.*

2b


WONDER MAKERS
ENVIRONMENTAL

November 24, 2008

Mr. Vince Sugent
7768 Pleasant Lane
Ypsilanti, MI 48197

RE: Factual Errors in DOT Mold Report
Wonder Makers Environmental project GC08-7927

Dear Vince:

In conjunction with our recent discussions we reviewed the report provided by the Department of Transportation (DOT) entitled *Investigation of Mold and Moisture at the Federal Aviation Administration Detroit Metropolitan Air Traffic Control Tower Facility*. This report is dated August 21, 2008, although we just received it from you on November 12, 2008. Four appendices were included with the FAA report, including a copy of the report prepared by the industrial hygienist hired to assist the DOT inspector.

While a more comprehensive evaluation of the document and the FAA's response will be forthcoming, you asked for a specific list of items that we deem to be factual errors. The items on the following pages include specific statements from the document and explanatory information that shows why they are false. The information is presented in the order in which the statements appear in the report.

The attached sheets document 22 instances in the report and appendices where factual errors are identified. Please note that we also found a number of errors in the report relating to the omission of critical information. Although intentional omission of relevant data is also a serious error, we only included examples of stated problems with the contradictory facts in this letter.

Sincerely,



Michael A. Pinto, CSP, CMP
CEO

3



U.S. Department of
Transportation

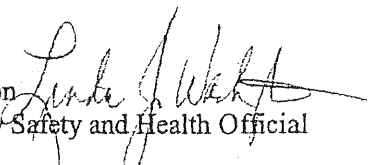
Office of the Secretary
of Transportation

Assistant Secretary
for Administration

1200 New Jersey Avenue, SE
Washington, DC 20590

July 21, 2008

MEMORANDUM TO: Robert A. Sturgell
Acting Federal Aviation Administrator

FROM: Linda J. Washington 
Designated Agency Safety and Health Official

SUBJECT: Whistleblower Investigation – Allegations of mold
and moisture problems at Detroit Metropolitan Airport

This presents our investigative findings and recommendations stemming from whistleblower allegations by air traffic controllers at the air traffic control tower at Detroit Metropolitan Airport (DTW) concerning mold and moisture problems at the tower. The whistleblowers allege that despite previous remedial efforts, mold and moisture problems at the tower have not been fully remediated, causing them to continue to experience adverse health effects. Our investigation has substantiated these allegations.

On March 11, 2008, the U.S. Office of Special Counsel (OSC) referred these allegations to the Secretary for investigation and report. The Secretary delegated responsibility for investigating this matter to this office. The whistleblowers are three current and former air traffic control specialists at DTW: Vincent Sugent, Elizabeth Dale, and David Parker. Mr. Sugent and Ms. Dale are currently employed at DTW. Mr. Parker worked as a controller at DTW from June 2002 to July 2005. He was on medical leave from July 2005 to December 2007 when he was terminated for inability to perform the duties of his position.

Please prepare a written response to the recommendations contained within this report by August 8, 2008. Your response will first be sent to the Secretary for approval, and then forwarded to the OSC.

Attachment

3b

June 4, 2009

Office of Special Counsel

RE: Intentional misrepresentation

Dear Karen:

This letter is in response to our recent conversation where we discussed specific documents that indicate that the FAA has intentionally lied to Congressional representatives. Although the union has suffered through a number of instances where the Agency intentionally manipulated the situation or presented fragmentary information in order to deceive us regarding their activities, this level of fraud is blatant.

The following are three excerpts from documents that were provided to the Office of Special Counsel by the FAA in response to the whistleblower claim that I filed regarding conditions at DTW. I have highlighted in bold type the most salient points which provide a clear trail that:

1. The FAA administrator was told in July 2008 that there were mold problems and employee health effects in the building.
2. In September 2008 the administrator told the DOT that corrective actions had created a safe and healthful work environment when no corrective actions or sampling had been conducted in the facility between July and September.
3. The FAA administrator indicated that problems were resolved when he told Congress in November 2008 that the tower has better air quality than the outside air.

As you review the excerpts below, or the full documents that I have attached as electronic files, please remember that the Agency has produced no evidence that corrective actions were implemented at any point between July and November 2008. In fact, no substantive actions related to indoor air quality or mold at DTW occurred between the time of the June inspection by Barbara Hebert and the December inspection by Michael Cecil.

Excerpts

July 21, 2008 letter to Robert Sturgell from Linda Washington, Assistant Secretary for Administration, Designated Agency Safety and Health Official, Department of Transportation—"The whistleblowers allege that despite previous remedial efforts, mold and moisture problems at the tower have not been fully remediated, causing them to continue to experience adverse health effects. **Our investigation has substantiated these allegations.**"

September 17, 2008 memo from Robert Sturgell to Linda Washington, "Based on the corrective actions that the FAA has taken at these facilities, and the sampling

and testing, which have been conducted by FAA and independent third parties, **we strongly believe that both facilities provide a safe and healthful work environment for our employees.**”

November 7, 2008 letter from Robert Sturgell replies to the September 10 and October 22 letters from Congressman Dingell. “The FAA has, to date, expended in excess of \$1 million on remediation and modification efforts...” “Our tests have generally found the occupied tower spaces have better air quality than the outside air.”

We are hopeful that such intentional dishonesty which has prolonged the suffering of building occupants who just want to do their job in a professional manner that protects the flying public will be appropriately punished.

We appreciate all of your assistance with this matter.

Sincerely,

Vincent Sugent
Regional President
National Air Traffic Controllers Association

3c

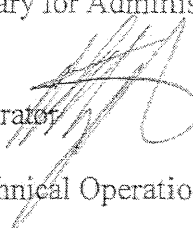


Federal Aviation Administration

Memorandum

Date: SEP 17 2008

To: Linda Washington, Assistant Secretary for Administration, Designated Agency Safety and Health Official

From: Robert A. Sturgell, Acting Administrator 

Prepared by: Steve Zaidman, Vice President, Technical Operations Services

Subject: Whistleblower Investigation – Allegations of Mold and Moisture Problems at Detroit Metropolitan Airport

Thank you for providing us your report on the Investigation of Mold and Moisture at the Federal Aviation Administration (FAA) Detroit Metropolitan Air Traffic Control Tower (DTW) Facility dated August 21, 2008.

Since discovery of mold at DTW in 2004, the FAA has diligently pursued the remediation of mold and elimination of water intrusion at the tower and base building to ensure that both facilities provide a safe and healthful workplace for our employees. To date, the FAA has expended in excess of \$1 million for remediation and modification efforts and approximately 45 personnel (FAA and contractor) have had some level of involvement.

Based on the corrective actions that the FAA has taken at these facilities, and the sampling and testing, which have been conducted by FAA and independent third parties, we strongly believe that both facilities provide a safe and healthful work environment for our employees. We hope that by accepting all your recommendations, this will further demonstrate FAA's commitment to ensure that DTW and the base building contain no health hazards for our employees. The recommendations and FAA's plans to implement them are included in attachment 1.

We note that your investigation did not find any indicators of poor indoor air quality and did not detect elevated mold spore concentration. In fact, indoor concentrations were consistently lower than outdoor concentrations.

Finally, although we plan to implement your recommendations, our review of the report disclosed information that we believe is inaccurate or misleading and does not correctly identify the existing conditions or the efforts that FAA has taken to protect its employees. This information is detailed in attachment 2 to this memorandum. We highly recommend you consider making the appropriate adjustments to your report. The FAA remains dedicated to providing a safe and healthful work environment for all its employees.

Attachments

3d

This response is excerpted from Michael Pinto's (Wonder Makers Environmental, Inc.) December 8, 2008 letter to Vince Sugent (NATCA), RE: General Comments Regarding DOT Mold Inspection Report and FAA Response; Wonder Makers Environmental project GC08-7927

Memo from Acting Administrator Robert A. Sturgell to Linda Washington dated September 17, 2008

Sturgell memo, page 1, paragraph 2

Since the discovery of mold at DTW in 2004, the FAA has diligently pursued the remediation of mold and elimination of water intrusion at the tower and base building to ensure that both facilities provide a safe and healthful workplace for our employees. See November 26, 2008, letter for specific details regarding the false aspects of this statement. Overall, the actions of the Agency have shown that the safety and health of the employees (and by extension the flying public) has been the lowest priority for the Agency.

Sturgell memo, page 1, paragraph 2

To date, the FAA has expended in excess of \$1 million for remediation and modification efforts...

The approach that the FAA has taken on denying the problem and then implementing piecemeal solutions before they remedied the source of the problem has led to the wasteful expenditure of tax dollars. If the FAA had been pro-active at determining the source of the moisture and logically following a course of action within the industry standard of care, the outlay of tax dollars could have been significantly less.

Sturgell memo, page 1, paragraph 2

Based on the corrective actions that the FAA has taken at these facilities, and the sampling and testing, which have been conducted by FAA and independent third parties, we strongly believe that both facilities provide a safe and healthful work environment for our employees.

This is a bit surprising since both facilities have active mold problems and ongoing water issues. How can it be safe if hazards still exist and there are sensitized employees present in the building?

Sturgell memo, page 1, paragraph 4

We note that your investigation did not find any indicators of poor indoor air quality and did not detect elevated mold spore concentrations.

See November 26, 2008, letter for specific details regarding the false aspects of this statement. Whether the interpretation of the DOT inspection data was intentionally skewed to present a more favorable view of the conditions in the building or just a result of a very narrow view of the data collected is irrelevant. The problems with the DOT report and the FAA's eagerness to proclaim that no IAQ issues exist is symptomatic of the long term predicament. The many building investigations and remediation projects

directed by the Agency and other government entities have been conducted with the attitude that mold/IAQ problems do not exist or are not as bad as the employees indicate. As such, the FAA has never made a diligent attempt to identify and resolve the problems that are actually impacting the building occupants.

Sturgell memo, page 1, paragraph 4

In fact, indoor concentrations were consistently lower than outdoor concentrations. Even though the Agency would like to ignore that mold spore types were found inside the building that were not occurring out-of-doors, the fact remains that the DOT samples recovered tertiary colonizers in both buildings, indicating the presence of a mold source inside the structure. *Stachybotrys* spores were identified in four samples collected in room 928 and in one sample collected in room 428, and *Ulocladium* was recovered on the ninth floor, fourth floor, and TRACON. In addition, elevated levels of *Aspergillus/Penicillium*-like spores were detected in the sampling conducted during the morning compared to out-of-doors. The cultured samples recovered *Aspergillus versicolor* from the base building first floor office even though none was found out-of-doors.

Sturgell memo, page 1, paragraph 5

...our review of the report disclosed information that we believe is inaccurate or misleading and does not correctly identify the existing conditions or the efforts that FAA has taken to protect the employees.

Until a comprehensive inspection is conducted utilizing engineering controls to protect the occupants, "the efforts that the FAA has taken to protect the employees" is just rhetoric.

Sturgell memo, attachment 1, page 2

A. OST Recommendation (ATCT): Conduct a comprehensive inspection of the wall cavities on every floor of the air traffic control tower, making sure to inspect the wall cavity from the unoccupied room side of the elevator shaft.

FAA Response: The FAA will retain a Certified Industrial Hygienist experienced with mold and indoor air quality issues to complete the recommended action. Action: Project completion date is December 31, 2008.

The union has requested a comprehensive inspection of the wall cavities on every floor for over three years. We strongly urge that the inspection be conducted utilizing appropriate engineering controls including mini-enclosures and negative pressure in order to protect the occupants from the contaminants that are contained within those wall cavities. A purchase order for this inspection does not delineate the number of samples that the inspector expects to collect from the wall cavities. Does the Agency intend for the "comprehensive inspection" to consist only of visual observations? This sort of limitation in past inspections has played a large part in the problem of continual discovery of mold growth in the tower.

Sturgell memo, attachment 1, page 2

B. OST Recommendation (ATCT): Based on the comprehensive inspection, remove all visibly contaminated (molded and water-damaged porous materials) from the air traffic control tower.

FAA Response: The FAA will develop and implement projects to remove molded and water damaged porous materials identified from the inspection. Action: Design and engineering will begin immediately upon completion of the inspection with contract work following as soon as possible.

The Agency has contracted to have molded and water-damaged porous materials removed in several unsuccessful projects since January 2005. Given the history of problems and the fact that the efforts at Detroit have national implications, a task force of all affected parties should be assembled to guide the remediation process so that the project is conducted according to the industry standard of care. The occupants have already experienced the results of ill health effects from too many ill-conceived and badly executed projects.

Sturgell memo, attachment 1, page 2

C. OST Recommendation (ATCT): Develop a mold remediation project communication plan for the facility to improve communication efforts between FAA management and union employees.

FAA Response: The FAA will develop a plan to improve communication. Action: Project communication plan implementation date is October 1, 2008.

If the meetings that have taken place in October and November 2008 are an indication of the FAA's improved communication, then the union can only expect more of what they have experienced since 2004. For example, during a November 5, 2008, meeting regarding mold and roof repairs, the Agency knew they were moving forward with the intrusive inspection of other parts of the building (the purchase order is dated September 22, 2008), yet the inspection was not mentioned by any of the attendees. If the Agency is sincere about improving communication and providing a safe workplace, they will avail themselves of the union's experts at the meetings and as participants in a task force. The occupants and the flying public deserve to have the safest approach to mold remediation planned and successfully executed. That can only be accomplished by including all of the stakeholders in the process.

Sturgell memo, attachment 1, page 2

D. OST Recommendation (ATCT): Remove all unnecessary wallboard and carpeting from unoccupied areas of the air traffic control tower and remove any wallboard currently in contact with concrete floors.

FAA Response: The FAA will assess which wallboard and carpeting is not needed in the unoccupied areas of the ATCT. A project will be developed to remove these items. Action: This effort will be included in the work to be accomplished under Recommendation B.

The task force should be in place prior to the removal of the wallboard and carpeting. The removal plan should include appropriate procedures to ensure that the occupants are not impacted by the removal of these materials.

Sturgell memo, attachment 1, page 2

E. OST Recommendation (ATCT): Evaluate the fire rating of cement backer board and mold resistant/paperless wallboard.

FAA Response: The FAA will evaluate wallboard that needs to be replaced in the ATCT and attempt to substitute with fire-rated, mold-resistant products. When the wallboard is replaced, a gap will be left between the concrete floor slab and new wallboard to prevent wicking of moisture into the panel. Action: This effort will be included in the work to be accomplished under Recommendation B.

This recommendation was offered by NATCA years ago and ignored by the Agency, which is a contributing factor of the regrowth of mold on the “new” drywall on the 9th and 4th floors.

Sturgell memo, attachment 1, page 3

F. OST Recommendation (ATCT): Continue efforts to prevent moisture intrusion into the air traffic control tower and prevent condensation from forming.

FAA Response: ...corrective measures identified were completed... Action: Monitoring is on-going...

Our November 26, 2008, letter details serious problems with the FAA’s monitoring, even when they have the appropriate monitoring equipment. (The letter notes that the FAA had devices installed to measure temperature and relative humidity but were not using the sensors. They decided to activate them during the DOT investigation.) This is another example of the disconnect between the FAA’s statements and their actions. The FAA is willing to spend taxpayers’ dollars in order to make a show of how much they have done to remedy the problem, but they didn’t use the purchased monitors to benefit the occupants until “caught” during an inspection. A definitive plan of what type of monitoring is being conducted, by whom, when, and some accountability measures should be implemented.

Sturgell memo, attachment 1, page 3

J. OST Recommendation (Base Building): Replace the leaking base building roof.

FAA Response: Action: A new roofing membrane will be installed by March 30, 2009.

The FAA’s approach to this re-roofing project has increased the potential risk to the occupants. Since all the sources of potential contaminants have not been identified (during the DOT visit only one ceiling tile was lifted for observation, previous tests confirmed the presence of fungal materials, and no one has checked to see if the roof insulation boards are moldy) and there are numerous penetrations between the roof and the interstitial space, it is logical that the re-roofing may dislodge contaminants and deposit them into the occupied space. The union has requested that the FAA use proper engineering controls and the Agency’s stance is that further inspection and engineering controls are unnecessary. This reluctance to include reasonable protection, such as a plastic barrier under the interior ceiling tiles, is even more puzzling given the history of building contamination problems the FAA has experienced with roofing projects across the country over the past three years. In fact, the FAA’s *Indoor Air Quality Implementation Guidance* dated September 25, 2006, was developed primarily in response to IAQ incidents from roofing projects. The Agency would do well to review that document in light of NATCA’s request and read again where it states:

Contaminants can also migrate from the work area through any openings such as pipe chases, abandoned duct, or holes in walls, floors, and ceilings. Any opening will convey contaminants if not sealed. Pay particular attention to the barrier between the construction area and the adjacent non-construction areas. For some renovation projects, the contractor may need to build an extensive barrier wall system between the occupied and construction areas. (page 32, item B),

Sturgell memo, attachment 1, pages 3 & 4

K. OST Recommendation (Base Building): Continue to immediately remove and replace water damaged building materials as necessary.

FAA Response: When such incidents arise, an investigation shall be made to identify the moisture source and correct it.

Despite reports to the DOT inspector which indicate that such activities are completed on a regular basis, the experience of the individuals in the tower is that wet or stained building materials are often left in place until an inspection or other event is scheduled.

Sturgell memo, attachment 1, page 4

L. OST Recommendation (Base Building): Develop a roof project communication plan for the facility to improve communication efforts between FAA management and union employees.

FAA Response: Local FAA management will develop a communication plan... Action: Roof replacement efforts...will be coordinated with facility management and employees...by October 1, 2008.

See the November 26, 2008, letter for a detailed response to this item.

Sturgell memo, attachment 2, page 5, paragraph 1

These comments are based on a thorough review of the report.

The controllers have been waiting for a thorough review of the *facility* for four years!

Sturgell memo, attachment 2, page 5, paragraphs 2, 5 and 6

The report states that FAA employees attributed a variety of symptoms to their exposure to mold and moisture at the Detroit Tower and that NIOSH's medical review failed to establish a link between the mold/moisture and many of the symptoms.

In the interest of completeness and accuracy, we believe the following would be more appropriate wording for your report:

As part of a Health Hazard Evaluation, NIOSH conducted a medical review. They reviewed the written symptoms profile and medical records provided by site employees. They were unable to find an association between the Detroit Tower moisture/mold issues and many of the symptoms experienced by the employees.

This link, or association, between conditions in the building and the deteriorating health of many of its occupants has been confirmed in medical documents presented to the Agency. The FAA refuses to objectively consider specific information submitted by recognized medical experts and instead relies on information from older investigations

and research reports to justify their belief that the building conditions are not impacting the controllers' health. This denial of current information is coupled with the Agency's refusal to conduct an anonymous health survey—a step that is recommended in the FAA's own Indoor Air Quality Guidelines.

Sturgell memo, attachment 2, page 5, paragraph 7

You state that the FAA was advised to clean visible mold from the elevator shaft liner using a biocide chemical. The FAA took a conservative approach and did not use a biocide. We used a deodorizer called Dri-Eaz Milgo SR. It is not marketed or approved by the EPA as a biocide. It is primarily used as a spray to deodorize residential carpets by carpet cleaners and is suitable for use as a residential laundry aid. The only hazardous ingredient listed in the MSDS is isopropyl alcohol (3-6 percent). The manufacturer recommends the addition of 8 ounces per gallon for wall applications. See the November 26, 2008, letter for a detailed response to this item.

3e



U.S. Department
of Transportation

Federal Aviation
Administration

Office of the Administrator

800 Independence Ave., S.W.
Washington, D.C. 20591

NOV 7 2008

The Honorable John D. Dingell
House of Representatives
Washington, DC 20515

Dear Congressman Dingell:

Thank you for your September 10 and October 22 letters concerning the history of mold and the indoor air quality in the Air Traffic Control Tower at the Detroit Metropolitan Airport (DTW). I apologize for the delay, but we wanted to conduct a thorough review before responding in writing.

Since discovery of mold at DTW in 2004, the Federal Aviation Administration has pursued the remediation of mold and the elimination of water intrusion at the tower and base building to ensure that both structures provide a safe and healthful workplace for our employees. The FAA has, to date, expended in excess of \$1 million on remediation and modification efforts at the facility, involving approximately 45 FAA and contractor personnel. In addition, at the FAA's request, from November 2005 through March 2006, three independent government health agencies evaluated the effectiveness of the FAA's remediation efforts, finding no threat to employee health. Our tests have generally found the occupied tower spaces have better air quality than the outside air.

More recently, the Office of Special Counsel has referred whistleblower disclosures concerning mold at DTW to the Secretary of Transportation. At the Secretary's request, the Department's Occupational Safety and Health Office conducted an independent investigation of the presence of mold and the indoor air quality in the DTW tower and base building. The Department will submit its report to the Office of Special Counsel, which will evaluate the report and submit its findings to the President and to Congress. As soon as the Office of Special Counsel concludes its review and releases its findings, we will be happy to provide you with the report and full and detailed information on what the FAA has done and will continue to do to preserve the health of its employees.

Along these lines, I want to advise you that we will soon begin replacement of facility's base building roof, which is an effort that we planned in advance of the Department's recent investigation. Further, we will continue to monitor the facility periodically and remediate any mold that is discovered in the future.

If I can be of further help, please contact me or Mr. Chris Brown, Assistant Administrator for Government and Industry Affairs, at (202) 267-3277.

Sincerely,



Robert A. Sturgell
Acting Administrator

4



DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

National Institute for Occupational
Safety and Health
Robert A. Taft Laboratories
4676 Columbia Parkway
Cincinnati OH 45226-1998

July 24, 2006
HETA 2006-0004

Wayne Vogelsburg, CIH
Federal Aviation Administration
Great Lakes Region Headquarters
2300 E. Devon Avenue
Des Plaines, Illinois 60018

Dear Mr. Vogelsburg:

Enclosed for your information, is a copy of the closeout letter for the National Institute for Occupational Safety and Health (NIOSH) health hazard evaluation (HHE) at Detroit Metro Tower. The enclosed letter, which describes the findings of the NIOSH investigation, constitutes the final report for this HHE.

Please feel free to call David Sylvain at (508) 997-6126, or Dr. Ayodele Adebayo at (513) 841-4116, if you have any questions regarding the HHE or the enclosed report.

Sincerely yours,

Randy L. Tubbs, Ph.D.
Psychoacoustician
Hazard Evaluations and Technical
Assistance Branch
Division of Surveillance, Hazard
Evaluations and Field Studies



DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Disease Control and Prevention

National Institute for Occupational Safety and Health

U.S. Public Health Service

New England Field Office
P.O. Box 87040
South Dartmouth, MA 02748-0701

July 24, 2006
HETA 2006-0004

Federal Aviation Administration
Attn: Jo L. Tarrh
Director, Central Service Area for Technical Operations
Southwest Region Headquarters
2601 Meacham Blvd.
Fort Worth, Texas 76137-4298

Dear Ms. Tarrh:

On September 30 and October 10, 2005, the National Institute for Occupational Safety and Health (NIOSH) received confidential requests for a health hazard evaluation (HHE) from air traffic controllers at the Detroit Metro Tower. The two requests stated that air traffic controllers and support staff were exposed to mold in the air traffic control tower (ATCT) and ATCT cab at Detroit Metro Airport in Wayne County, Michigan. Health effects listed in the requests include nasal polyps, asthma, rashes, hives, blisters, eye/nose/throat irritation, flu-like symptoms, metallic taste, mood swings, and memory problems. During telephone conversations, several Federal Aviation Administration (FAA) employees stated that they believed mold in the workplace was making them ill. Health effects/conditions reported during these conversations include a constant hacking cough, copious nasal discharge, Chlamydia pneumonia, sinus infections, sore throat, swollen glands, an enlarged uvula, Stachybotrys antibodies in blood samples, and lung scarring. Employees reported that symptoms such as cough, rhinitis, and respiratory difficulties diminished when they were away from the workplace, and increased upon returning to the ATCT.

FAA employees expressed concern about mold on interior and exterior elevator shaft drywall and in various rooms in the tower. They stated that attempts at mold remediation had been ineffective, e.g., the "source" of the mold had not been identified, water leaks had not been repaired, drywall was only partially removed, and new drywall was installed over old drywall. They stated that potentially contaminated drywall in inaccessible exterior locations of the elevator shaft had not been inspected.

In addition to health effects due to mold exposure, requestors were concerned about a specific incident that occurred during a remediation attempt on January 22, 2005. Requestors stated that FAA employees became symptomatic following the spraying of Dri-Eaz Milgo SR® (a commercial deodorizer) in the elevator shaft and on floors 4 and 9. According to information provided by the requestors, FAA employees evacuated the tower after a contractor sprayed the deodorizer. Several FAA employees went to local hospital emergency departments with

complaints including eye irritation, headache, upper airway irritation, chest pain, nausea, and bloody nose.

Our evaluation of employees' health concerns consisted of a review of the consultant reports and medical records provided to us. These documents include letters and other documents provided to the National Air Traffic Controllers Association (NATCA) by the union's environmental consultant, Wonder Makers Environmental, Inc., and reports of inspections, sampling, and/or remediation conducted by

- MoldQuest International (bulk sampling results, September 2004)
- Tillotson Environmental Occupational Consulting (site visit, January 22 and 24, 2005)
- DTW Mold Remediation Plan (FAA PowerPoint presentation, March 7, 2005)
- FAA (weekly progress reports for remediation, May 2005)
- Jacobs Engineering Group, Inc. (qualitative moisture assessment, June 21-22, 2005)
- Federal Occupational Health (visual assessment and consultation, February 1, 2006).

This letter describes our findings as they relate to the Detroit Metro Tower. These are: (1) molds are a potential health hazard; (2) sick people working in the building should see their doctor; (3) visible indoor mold should be properly remediated; and (4) sources of moisture in the building should be identified and eliminated to prevent future indoor mold growth.

Information in the documents provided to us indicates that mold was discovered or confirmed as a result of a consultant's inspection on September 29, 2004. The consultation report for this visit stated that mold was visible in at least seven locations on ninth-floor drywall, and was present in three bulk samples. Over the next 9 months, remediation plans were drafted, several consultants inspected the ATCT, and at least two remediation efforts were undertaken. During this period, several FAA employees sought medical attention for conditions they believed were caused by exposure to mold and Dri-Eaz Milgo SR®.

The first remediation for which we have any information, occurred in January 2005, when Coach's Catastrophe Cleaning sprayed Dri-Eaz Milgo SR® on the walls of the elevator shaft, and on floors 4 and 9. This activity resulted in reports of health problems by FAA staff, and in the evacuation of the tower. A bulk sample of Dri-Eaz Milgo SR® was sent to a laboratory that performed a GC/MS head space analysis. The analysis reported the relative abundance of volatile constituents in Dri-Eaz Milgo SR® as "trace," "minor," or "major." The "major" constituents were ethoxymethyl-benzene, 1-octanol, undecane, 1-dodecene, and tridecane. Isopropanol which constitutes 3%-6% of the total ingredients according to the material safety data sheet, was reported as a "trace." Glutaraldehyde, which had been a constituent of one of two Dri-Eaz Milgo SR® formulations (0.3% glutaraldehyde), was not detected. According to information provided by the FAA, the formulation used in the tower did not contain glutaraldehyde. A certified industrial hygienist (CIH) who assessed exposure to Dri-Eaz Milgo

SR® several days after the spraying concluded that spraying the diluted solution did not create a health hazard. The CIH also stated that the source of water needed for mold growth appeared to be moisture that condensed on concrete and metal surfaces in non-air conditioned areas during humid summer months.

A March 7, 2005, PowerPoint presentation (“DTW Mold Remediation Plan”) describes plans to address mold in the short- and long-term. Short-term plans included identifying and correcting moisture problems, performing monthly inspections to identify new mold growth, and performing air sampling as necessary. Long-term plans included verifying the source of moisture (thought to be due to temperature variance), performing a mechanical engineering evaluation of the heating, ventilating, and air-conditioning (HVAC) system, and a structural engineering evaluation of elevator shaft construction. Long-term plans also called for continued remediation, i.e., replacing contaminated drywall, and painting/sealing drywall surfaces.

FAA Weekly Progress Reports for May 2005, indicate that remediation was continued as described in the March 7 presentation. Remediation was conducted under the supervision of an FAA CIH and a consultant CIH. According to the progress reports, the drywall replacement project was 98% complete as of May 17, 2005.

On June 21-22, 2005, a multidisciplinary team from Jacobs Engineering Group, comprised of an architect, mechanical engineer, and CIH conducted a qualitative moisture assessment and a limited visual inspection for mold. The architectural survey identified conditions that could allow water to penetrate the building envelope and migrate to interior locations where it would wick into drywall partitions. Conditions identified in the report include deteriorated caulking in joints between pre-cast concrete panels, absence of a waterproof traffic membrane on microwave antenna balconies, and drywall partitions (newly installed and existing) in contact with concrete floor slabs. The mechanical engineering survey determined that the ATCT was under negative pressure, and the HVAC system was operating in the economizer mode, bringing moist outdoor air into the ATCT. The survey also determined that the vestibule ventilation system was inoperable, the building automation system was unreliable, and facilities personnel needed adequate training regarding operation of the system.

When considered collectively, the various reports and documents provided to NIOSH describe a situation whereby leaks in the building envelope had allowed water to enter the ATCT, wick into drywall, and create a suitable substrate for mold growth. Mold contamination on drywall resulted in employees’ health concerns. This situation has existed since sometime in 2004 (possibly earlier), and can be expected to continue or recur until all leaks have been repaired, HVAC deficiencies corrected, and all mold sources located and successfully remediated. Until this remediation takes place, the employees who experience upper airway symptoms when exposed to mold may continue to experience them.

Environmental Sampling for Mold

Although surface sampling confirmed the presence of mold in certain interior locations of the ATCT, we did not find bioaerosol sampling results to be helpful in assessing the extent to which mold may have contributed to health problems among employees. In most cases, bioaerosol sampling is not useful as an environmental evaluation method, as few criteria are available to assist in the interpretation of the data. Without exposure guidelines for mold in air, it is not possible to distinguish between "safe" and "unsafe" levels of exposure. Furthermore, dose-response relationship information is lacking, and the mere presence of bioaerosols in samples does not prove a causal relationship with complaints. Bioaerosol sampling may be useful to compare complaint areas to noncomplaint areas, and to compare indoor air with outdoor air; however, this effort is often an unnecessary expense that does nothing to remove bioaerosol source reservoirs. A more cost-effective approach is to visually locate bioaerosol sources (microbial contamination), and eliminate the sources following remediation guidelines developed by organizations such as the U.S. Environmental Protection Agency, New York City Department of Health, and the American Conference of Governmental Industrial Hygienists (ACGIH®). These guidelines should be followed to ensure that environmental assessments are designed and conducted in a manner that provides adequate, accurate information, and that remediation not only eliminates the mold, but corrects the underlying cause(s) responsible for water intrusion. In addition, adherence to established guidelines will ensure that the safety and health of building occupants and remediators is not compromised.

When locating mold sources, it is important to inspect for mold that may be growing on hidden surfaces inside interior walls, beneath carpet or wallpaper, in pipe chases, etc. All drywall in the ATCT, which may have become wet, should be inspected for mold growth. This includes drywall in concealed areas, interior surfaces of walls, "inaccessible" locations, and all other areas where leaks may have caused building materials to become a suitable substrate for mold growth.

Medical Review

We reviewed the written symptoms profile and medical records provided by requesters on some of the employees who worked at the control tower. Dr. Ayodele Adebayo, spoke with Dr. Nestor Kowalsky, FAA Regional Flight Surgeon. Dr. Kowalsky was aware of the employees' concerns; however, he was not involved in their care. We repeatedly attempted to contact one of the treating physicians, Dr. Michael Harbut, Chief of the Center for Occupational/Environmental Medicine in Royal Oak, Michigan. Dr. Harbut did not return our telephone calls.

A review of the submitted symptoms profile revealed that prior to January 22, 2005, some employees had low-level non-specific symptoms such as fatigue and headaches. On January 22, 2005, there was an outbreak of upper respiratory tract irritation symptoms such as dry/itchy throat, burning eyes, runny nose, sneezing, and nasal congestion. Other reported symptoms were cough, shortness of breath, chest tightness, skin rash, nausea, and vomiting. Some employees' symptoms were severe enough to warrant emergency room visits. Since then, there have been reports of current and ongoing symptoms that start a few hours into the work shift and diminish when away from work.

Additionally, reports of new-onset asthma and *Chlamydiae pneumoniae* pneumonia were deemed related to employment in the ATCT. The NIOSH physician could not substantiate such diagnoses based on the medical records provided. Our request to receive updated medical records from employees was not fulfilled.

The Institute of Medicine (IOM) of the National Academies has found that some upper respiratory tract symptoms, such as those reported by FAA employees (dry/itchy throat, runny nose, sneezing, and nasal congestion) are associated with damp indoor environments and the presence of mold or other agents in damp indoor environments.¹ The presence of these symptoms among employees in the ACTC may indicate exposure to mold or damp indoor air. While some employees reported being diagnosed with new-onset asthma, we could not substantiate that diagnosis based on the medical records provided. The IOM has found only limited or suggestive evidence of an association between damp indoor environments, or the presence of mold or other agents in damp indoor environments, and the development of asthma in individuals without previous asthma.¹

The medical records provided to us did not substantiate the diagnosis of *C. pneumoniae* pneumonia among some FAA employees. The criterion for making a diagnosis of acute *C. pneumoniae* infection when using microimmunofluorescence assay is through a four-fold rise in IgG, or an IgM titer of $\geq 1:16$.² Although a single IgG of $\geq 1:512$ may suggest an acute infection, the use of a single assay in making a diagnosis of acute *C. pneumoniae* infection is strongly discouraged.² It should be noted that *C. pneumoniae* is a bacterium, not a fungus (mold).

Regarding the other reported symptoms, the IOM concluded that the evidence of an association between damp indoor environments or exposure to moldy environments, and skin symptoms, mucous membrane irritation syndrome, lower respiratory illness in otherwise healthy adults, fatigue, neuropsychiatric symptoms, and immune diseases is either inadequate or insufficient.¹ It should be noted that the absence of sufficient evidence of an association is not synonymous with lack of an association, and that the IOM conclusions only apply to immunocompetent persons. Therefore, the conclusion that mold is not a threat to the health of ATCT employees, as stated in an FAA letter dated December 16, 2006, is not substantiated by scientific evidence. It is imperative to provide employees a work environment free from mold and environmental factors that cause mold growth. In order to achieve this goal, we recommend the following:

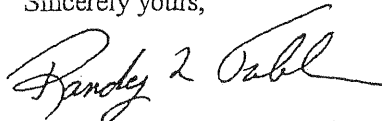
1. Inspect all locations where building materials may have become wet. Mold that is not actively growing can still present a health hazard, and may resume growing when conditions become favorable.
2. Perform corrective actions recommended in the Jacobs Engineering Group report to help ensure that all sources of moisture are eliminated and the HVAC system operates properly.

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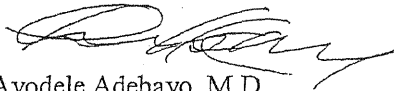
This letter closes our file on this health hazard evaluation request. NIOSH recommends that employers post a copy of this letter for 30 days at or near work areas of affected employees.

If you have questions or concerns about this report, please do not hesitate to contact us. David Sylvain can be contacted at (508) 997-6126 or by e-mail at dsylvain@cdc.gov; Dr. Adebayo at (513) 841-4116 or aadebayo@cdc.gov.

Sincerely yours,



for David C. Sylvain, M.S., CIH
Regional Industrial Hygienist



Ayodele Adebayo, M.D.
Medical Officer

Hazard Evaluations and Technical
Assistance Branch
Division of Surveillance, Hazard
Evaluations and Field Studies

cc: confidential requestors
Wayne Vogelsburg
Annie Glenn

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Appendix

Background

Employees working in buildings may experience a wide range of health symptoms. Many symptoms are thought to be associated with the building because they improve or disappear completely when the employees are away from the workplace. These building-associated health symptoms may include mucous membrane discomfort (eye/nose/throat irritation), headache, and fatigue. Potential causes of these symptoms have been extensively researched, but in most cases no identifiable cause in the workplace can be found. Distinct from these are illnesses that have a specific medical diagnosis, and can be determined by a physician through a medical evaluation and an assessment of work-relatedness. These illnesses can often be associated with specific indoor exposures such as molds, carbon monoxide, and certain bacteria (e.g., *Legionella*).

Concern about indoor environmental quality (IEQ) problems related to molds in the workplace has been increasing with heightened public awareness, primarily through the popular media. Although this may appear to be a recent problem, exposure to molds has occurred throughout history. In fact, the types of molds found in buildings are not rare or even unique to the building environment.

Molds are a type of fungi and, unlike plants, lack chlorophyll. They survive by using plants and decaying organic matter for food. Molds reproduce by releasing tiny spores that are carried by air currents to other locations. Mold spores are so small that the human eye needs magnification to see them. Molds are widely distributed in nature, and human exposure to mold spores occurs commonly, both indoors and outdoors, at home and at work. No environment is completely free from mold spores, not even a surgical operating room.

Medical Issues

A small percentage of people may experience symptoms such as mucous membrane irritation, runny nose, and upper airway congestion when exposed to excessive mold growth in a building. Less common symptoms such as breathing difficulties may also occur. The types and severity of symptoms depend in part on the types and extent of the mold present, the extent of the individual's exposure, and the susceptibility of the individual (for example, whether she or he has pre-existing allergies or asthma). In general, excessive exposure to mold may produce health problems by several primary mechanisms, including (1) allergy or hypersensitivity, (2) irritant effects, (3) infection, and (4) toxic effects. Each of these is discussed below.

Allergy or Hypersensitivity

Inhaling or touching mold or mold spores may cause allergic reactions in sensitized (allergic) individuals. Allergic responses are usually characterized by sneezing; itching of the nose, eyes, mouth, or throat; nasal stuffiness and runny nose; and red, itchy eyes. Repeated or single

exposure to mold or mold spores may cause previously non-sensitized individuals to become sensitized.

Molds can trigger asthma symptoms (shortness of breath, wheezing, cough) in persons who are allergic to mold. A recent review of the scientific literature concluded that exposure to molds in the indoor environment may make pre-existing asthma worse, but also concluded that there was not enough evidence to determine whether exposure to mold in the indoor environment could cause asthma.

Hypersensitivity pneumonitis, which can result when the immune system reacts to certain types of inhaled substances (such as mold spores), is a rare illness which may resemble bacterial pneumonia. Typically this condition involves respiratory symptoms (such as cough, wheezing, or shortness of breath) as well as other symptoms (such as extreme fatigue and low-grade fever). It has developed in people following both short-term (acute) and long-term (chronic) exposure to molds.

Irritant Effects

Exposure to excessive concentrations of molds in airborne dust can cause irritation of the eyes, skin, nose, throat, and lungs. Irritation of the upper and lower airways may worsen pre-existing conditions such as allergic symptoms or asthma. Molds produce a variety of volatile organic compounds, the most common of which is ethanol, that may also cause upper airway irritation.

Infection

People with weakened immune systems (immune-compromised or immune-suppressed individuals) may be more vulnerable to infections by molds. For example, *Aspergillus fumigatus*, a mold that has been found almost everywhere on every conceivable type of substrate, has been known to infect the lungs of immune-compromised individuals after they inhale airborne spores. Healthy individuals are usually not vulnerable to infections from airborne mold exposure.

Toxic Effects

Recently, concern has increase about exposure to specific molds that produce toxic substances called mycotoxins. Illness associated with exposures (from inhalation and/or skin contact) to mycotoxins in agricultural or industrial environments has been reported. However, no conclusive evidence currently links mycotoxin exposure in the indoor environment and human illness. Some of the molds that are known to produce mycotoxins have been commonly found in moisture-damaged buildings; research is ongoing related to the importance of these findings.

Medical Treatment

Minimizing exposure to mold will likely require effective communication between employees (or employee representatives) and those persons responsible for maintaining the building environment, as well as effective actions by the building maintenance staff should a problem be found. Individuals concerned about their symptoms are encouraged to seek medical attention to ensure the proper diagnosis and treatment. A systematic clinical approach for evaluating persons with suspected building-related symptoms or illness is recommended. Recognizing and treating workers with serious building-related illness, if present, is important to prevent chronic disease.

Environmental Issues

There are no exposure guidelines for mold in air. Therefore, it is not possible to distinguish between “safe” and “unsafe” levels of exposure. We do know, however, that moisture intrusion along with nutrient sources such as building materials or furnishings allows mold to grow indoors. It is extremely important, therefore, to keep the building interior and furnishings dry to prevent unwanted mold growth.

Indoor Mold Prevention

The key to preventing indoor mold contamination is to control interior moisture. Each of the following should be considered.

- Repair leaks in the building envelope and plumbing/sewage systems.
- Prevent condensation through insulation, increasing surface temperature, or increasing air circulation.
- Vent any moisture-producing equipment or appliances to the outdoors.
- Maintain interior relative humidity below 60% (ideally between 30% and 50%) to minimize mold growth. Dehumidify as necessary to achieve this level.
- Ensure that air conditioning systems are adequately drained to prevent standing water.
- Clean up and dry any wet or damp spots within 48 hours.
- Ensure that water drains away from the building foundation.
- Routinely inspect and maintain the building and building systems.

Indoor Mold Remediation

Preventing indoor mold growth and remediating indoor mold contamination may prevent health problems. Remediation should follow the guidelines described in the Environmental Protection

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Agency's document, "Mold Remediation in Schools and Commercial Buildings." This document describes the steps necessary to clean up mold contamination while protecting the cleanup workers, the building occupants, and the surrounding indoor environment. Additional information regarding IEQ issues in general and the evaluation and remediation of indoor mold contamination specifically, is available from the Environmental Protection Agency at <http://www.epa.gov/iaq>.

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