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**Analysis of Disclosures, Agency Investigation and Reports,
Whistleblowers' Comments, and Findings of the Office of Special Counsel**

OSC File Nos. DI-08-0494, DI-08-0497, & DI-08-0550

Summary

Elizabeth Dale, David Parker, and Vincent Sugent, current and former Air Traffic Control Specialists (controllers), U.S. Department of Transportation (DOT), Federal Aviation Administration (FAA), Detroit Metropolitan Airport (DTW), Romulus, Michigan, disclosed that previous attempts to remediate mold and moisture in the DTW air traffic control tower (Tower) were unsuccessful. In addition, the whistleblowers, who consented to the release of their names, alleged that DTW controllers continue to suffer severe health problems caused by the mold in the Tower.

The Office of Special Counsel referred the whistleblowers' allegations to the Honorable Mary E. Peters, former Secretary of Transportation, on March 11, 2008. Secretary Peters delegated the authority to conduct the investigation to Linda J. Washington, Assistant Secretary for Administration. OSC received a report dated October 22, 2008. The investigation substantiated the allegation that mold and moisture in the Tower have not been fully remediated but did not directly link the mold to the employees' health problems. OSC received a supplemental report from the agency in two parts on April 8, 2009, and April 27, 2009, and a second supplemental report on October 9, 2009. OSC received comments from Ms. Dale, Mr. Parker, and Mr. Sugent.

As a result of the investigative findings, FAA decided to start anew the inspection and remediation process in January 2009. The new inspections and remediation work are being performed by a team jointly selected by the FAA and the whistleblowers' union. The entire process is expected to take up to three years. An employee health survey of current and former Tower employees is being planned and should be conducted in the near future. Based on the foregoing, OSC has determined that the agency's reports contain the information required by statute and the agency head's findings are reasonable.

Background and Prior Investigations

Mold problems in the DTW Tower date back to September 28, 2004, when representatives from the whistleblower's union, the National Air Traffic Control Association (NATCA), discovered mold during a routine inspection. The Tower is a 12-story building connected to a 2-story base building. MIS, a contractor, was hired to conduct mold remediation and performed work on January 19 and 20, 2005. MIS removed some mold-infested drywall but found

additional mold-infested drywall outside the scope of its contract. However, MIS failed to seal off the exposed drywall that was adjacent to the areas it removed. The whistleblowers believed that the exposed drywall, which also contained mold, allowed the mold to spread throughout the facility due to the exposed area's proximity to the elevator shaft.

Additional attempts to remediate the mold and eliminate the moisture source in the building were made in May 2005, January 2006, February 2006, and frequently between May 2006 and February 2007. In May 2006, a high efficiency particulate air vacuum was used in an attempt to remove mold in the elevator shaft. The wallboard surface was later cleaned with detergent and water. The whistleblowers' expert, Michael A. Pinto, CSP, CMP, Wonder Makers Environmental, Kalamazoo, Michigan, stated that the proper procedure, which was recommended by the manufacturer of the wallboard, was to replace the wallboard. Mr. Pinto is a longtime environmental advisor to NATCA and also has advised the FAA and Federal Emergency Management Agency. On December 8, 2006, and April 12, 2007, the controllers requested permission to perform invasive testing at their own expense on the wallboard in the elevator shaft to determine how much mold remained within the wallboard. These requests were rejected by the FAA. The FAA's expert, Robert Safe, concluded there was a lack of need and no benefit to be gained by allowing this type of sampling.

On July 11, 2006, Assistant Inspector General for Aviation and Special Program Audits David Dobbs wrote a memorandum to the FAA Administrator in response to an inquiry from members of the Michigan Congressional delegation. Mr. Dobbs acknowledged that "[u]ntil the moisture source has been controlled, mold will continue to be an ongoing problem." He expected that all mold remediation and moisture control projects would be completed by November 2006. Mr. Dobbs also acknowledged that several employees in the Tower "have experienced adverse health affects [sic] related to mold exposure."

OSC contacted the DOT Office of the Inspector General (OIG) in January 2008, to determine the extent to which the agency had already addressed these allegations. The OIG confirmed that all moisture sealing and mold remediation work was completed by February 2007. Despite the previous remediation work, the whistleblowers alleged that the mold had not been fully remediated and controllers continued to suffer adverse health effects from it. Mr. Sugen provided 14 signed statements from controllers, which gave detailed descriptions of the symptoms they suffered. The symptoms included respiratory infections, sinus infections, dry scratchy throats, coughs, itchy and burning eyes, frequent headaches including migraines, memory problems, and laryngitis. Additionally, Mr. Sugen stated that at least 10 controllers who work in the Tower now suffer from asthma. Most of these employees, including Mr. Sugen, never had asthma prior to working in the DTW Tower

Mr. Sugen observed mold at the facility after February 2007 when the moisture sealing and mold remediation were said to have been completed. On January 3, 2008, he saw two stained ceiling tiles on the second floor. Private testing by Mr. Sugen revealed that the tiles contained 100% Basidiospore, a fungal spore usually found outdoors that is not expected to produce physical symptoms on humans except in cases of extreme or prolonged exposure. The mold-infested tiles were removed by unknown officials before January 10, 2008. In early February 2008, Mr. Sugen took swab and tape samples from drywall on the ninth floor of the

Tower. He submitted the samples to Mr. Pinto, who had them tested for mold by EMLab P&K, Phoenix, Arizona. The test results, which were received February 20, 2008, stated that the samples contained *Stachybotrys*, *Ulocladium*, and *Aspergillus/Penicillium*-like spores. Each of these molds is considered an allergen to humans.

Mr. Sugent also found indirect evidence suggesting that the moisture problem had not been sufficiently corrected. He found five-gallon buckets, which were cut down to a height of 4 or 5 inches, hidden above ceiling tiles and used to collect water. Mr. Sugent did not know how many of these buckets were hidden above the ceiling tiles in the facility. Some of the buckets contained a padded absorption tube.

The Whistleblowers' Disclosures

The whistleblowers alleged that the mold and moisture remediation efforts were unsuccessful. They also alleged that they and others at the facility experienced adverse health effects occasioned by the mold and the improper remediation efforts. Specifically, the whistleblowers reported that employees suffered from asthma, repeated respiratory infections, dry hacking coughs, weakened immune systems, memory losses, and a host of other symptoms due to the mold.

Initial Report of the U.S. Department of Transportation

The agency's October 22, 2008, report contained a two-page letter from Secretary Peters, a 47-page Office of the Secretary of Transportation Investigative Report (OST report), which included appendices and tables, and a six-page memorandum from Robert A. Sturgell, former FAA Acting Administrator. The memorandum contained the FAA's response to the investigation and its recommendations.

Secretary Peters admitted that mold and moisture problems in the Tower had not been fully remediated. Visible mold growth was found on unoccupied floors of the Tower, which indicated that moisture returned despite past remediation efforts. Secretary Peters acknowledged that some of the experts' key remediation recommendations have yet to be implemented. The investigators determined that approximately 15 employees continued to experience adverse health effects, which the employees believe were caused by the mold. However, no new Occupational Safety and Health Administration (OSHA) recordable employee injuries or illnesses related to mold had been filed since July 2006. Secretary Peters noted that "the measured airborne fungal spores detected within the facility do not indicate elevated mold spore concentrations that would be likely to adversely impact employee health."

Secretary Peters referenced several recommendations taken directly from the OST report. These recommendations included performing a comprehensive inspection of the Tower's elevator shaft and wall cavities to determine the full extent of the mold problem; removing identified mold and molded porous material; developing a communication and safety control plan to be shared with employees working in the facility; removing all unnecessary wall board and porous material from the unoccupied areas of the Tower; investigating the use of paperless

wallboard, cement backer board or mold resistant drywall; monitoring the facility for signs of moisture intrusion, mold growth and condensation; replacing the leaking base building roof and developing a communication and safety control plan to be shared with the employees of the facility; and evaluating other FAA air traffic control towers of a similar Leo Daly design for signs of moisture and mold growth problems. Secretary Peters also reviewed the FAA's Action Plan and believed its planned actions addressed the report's findings and recommendations. The FAA pledged to provide the Assistant Secretary for Administration monthly written updates on the status of recommendations.

The OST report, dated August 21, 2008, addressed whether mold and moisture problems continued at the DTW Tower, and if so, what remedial actions should be taken to resolve them. The investigative team included the Departmental Safety and Occupational Health Manager, a senior attorney from the Office of General Counsel, and a contract Certified Industrial Hygienist (CIH). The investigators conducted a site visit on May 19 and May 20, 2008. They met with management and interviewed the three whistleblowers. The investigators reviewed documentation provided by the whistleblowers, FAA management, and NACTA's experts, including previous reviews and investigations conducted at the facility. The investigation 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 the investigators on the inspection.

The investigative team interviewed Mr. Sugent, Ms. Dale, and Mr. Parker regarding their health symptoms and their mold and moisture concerns. At the time of their interviews, they each worked 8-10 hour shifts in the Tower and most of that time was spent in the Tower's cab area. They each reported similar health symptoms, including respiratory illnesses, asthma, laryngitis, headaches, coughs, elbow pains, sneezing, and short term memory loss. Each of them sought medical treatment, which provided some improvement. None of them indicated having previous allergies. All three whistleblowers expressed concern regarding the thoroughness of the FAA's efforts to remove mold and prevent moisture leaks. They claimed mold was still present and must be properly removed. They believed other employees working at the facility experienced similar health problems, but would not report them out of fear of losing their jobs. After employees received a memorandum directing them not to abuse sick leave, the controllers, according to the whistleblowers, were hesitant to use sick leave or to report all of their health problems during their annual medical evaluations, which are required by the FAA.

The OST report reflected that there were approximately 160 employees who worked in the Tower, including 135 controllers and 35 technical operations employees. 27 injuries and illnesses were reported between January 1, 2004, and June 23, 2008. Of these, four occurred in 2004, 12 in 2005, seven in 2006, two in 2007, and two in the first half of 2008. 56% of these injuries or illnesses appeared to be related to poor indoor air quality, mold, or respiratory illness. However, no reports related to these problems occurred prior to 2005 or in 2007 or the first half of 2008. Nonetheless, the investigation team acknowledged that "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 investigation team agreed with the findings of a July 24, 2006, National Institute for Occupational Safety and Health (NIOSH) evaluation. The NIOSH evaluation concluded that mold contamination could be expected to continue until all leaks have been repaired, HVAC deficiencies have been corrected, and mold sources have been located and remediated. Until such remediation takes place, employees who are exposed to mold may continue to experience upper airway symptoms. A detailed list of reports of injuries and illnesses by DTW employees is contained in Appendix B to the OST report.

Efforts to remove the mold began in 2005. Numerous agencies and contractors visited the site or conducted reviews related to facility and employee health issues. These agencies included OSHA, NIOSH, and Federal Occupational Health. These experts concluded that the Tower did have evidence of moisture intrusion and mold growth. The FAA was advised to clean visible mold from the elevator shaft using a biocide chemical. On January 22, 2005, employees were evacuated from the Tower due to a strong chemical odor. Seven injury or illness claims were reported on that day by employees who suffered respiratory illnesses caused by the elevator shaft cleaning efforts. The OIG conducted an inspection of the facility and released a report of its findings on July 11, 2006. This report stated that until moisture sources are controlled, mold will continue to be an ongoing problem.

Appendix A to the OST report contained 36 past recommendations, which were made between August 31, 2005, and June 13, 2007, regarding how to address the moisture and mold problems. The status of each of these recommendations as of August 21, 2008, was listed as well. Of the 36 past recommendations, 17 were completed, 16 were incomplete, one was “ongoing,” one was “in progress,” and one was “unknown.” The past recommendations included sealing the building envelope to prevent moisture from entering the building; improving the building’s heating, ventilation, and air conditioning (HVAC) systems to prevent condensation; removing areas of visible mold growth; preventing wicking of moisture into wall board surfaces; removing possible food sources for mold; and conducting ongoing inspections. The FAA conducted periodic inspections of the elevator shaft liner for moisture and mold growth, but these inspections were stopped because the FAA found no mold or moisture. Despite attempts to seal moisture from intruding into the Tower, the base building roof had ongoing leaks and was scheduled for replacement.¹ The FAA installed a “memory card” in the HVAC controls to collect long term data on the humidity and temperature of the Tower.

The OST report contained two main findings.² First, the mold and moisture problems at the DTW Tower had not been fully remediated. The investigators revealed apparent mold growth on the unoccupied fourth and ninth floors. In Room 928, visible mold was found on new drywall that had been installed in the remediation area. Visible mold was also found on the back

¹ The base building roof has since been replaced. The current status of the roof is discussed in the second supplemental report and Mr. Sugent’s comments on that report.

² Please note, subsequent inspections have contradicted many findings in the initial report. As outlined in the second supplemental report and Mr. Sugent’s comments on that report, mold is widespread in the buildings, the roofing project was unsuccessful in preventing moisture intrusion and will require the roof to be replaced a second time, and it has been determined that the elevator shaft and the HVAC system do indeed act as a pathway for the dissemination of mold spores.

side of the green wallboard elevator shaft inside the wall cavity in Room 928. The total visible mold in Room 928 was less than 10 square feet. The investigators believed the mold was caused by moisture wicking up new drywall that was in contact with the concrete floor. Similarly, less than 10 square feet of mold was discovered on the green wallboard elevator shaft inside the wall cavity in Room 428. An FAA inspection of DTW Tower wall cavities, which occurred between June 9 and June 12, 2008, identified additional locations where mold contamination existed.³ All of the observed wallboard in the Tower was dry at the time of the investigators' visit. The base building leaked badly in several areas, requiring catch pans and a funnel to be placed above the drop ceiling to catch rain water and melting snow as they entered the building. Approximately 20 stained ceiling tiles had been recently removed from the base building at the time of the visit. The tiles became wet from base building roof leaks. A visual inspection of the Tower's elevator shaft revealed no visible mold growth. The investigators concluded that the shaft did not "appear to be a conduit or active pathway for mold spores to travel within the facility." Notes and photographs from these inspections were contained in Appendix C to the OST report.

Second, the investigators found that while indoor fungal concentrations were insignificant compared to concentrations outside, *Stachybotrys* spores, an indicator of a chronic moisture control problem, were detected on the unoccupied fourth and ninth floors. Bioaerosol samples were collected at two base building locations, five tower locations, and outdoors at two different times on May 20, 2008. The airborne fungal spore concentrations within the Tower and base building were considered insignificant and did "not indicate elevated mold spore concentrations within the tower or base building that would be likely to adversely impact employee health."

The fungus *Stachybotrys* was detected in the fourth and ninth floors of the Tower. The investigators believed it was detected because of the removed wallboard panels and the visible mold that was discovered. *Stachybotrys* spores are not commonly found indoors. They produce a sticky spore that is not easily airborne unless it is disturbed. The concentrations of all mold spores within the Tower were lower than mold spore concentrations outdoors. The investigative team viewed this fact as a good indicator that the building's ventilation system was properly filtering out mold spores. The investigators determined that the elevator shaft was not an effective conduit to spread mold throughout the Tower, because they would have expected higher concentrations of mold spores in the Tower cab, Junction level break room, and inside the base building if that were the case. The investigators also would have expected the disturbed *Stachybotrys* spores to have spread to other floors of the facility. They noted that the finding of *Stachybotrys* spores is significant because it indicated that there was or had been a chronic moisture problem in the Tower, but "it does not pose a health hazard more than any other mold or fungal spore that individuals can become sensitized to." The industrial hygiene report and air sampling results were contained in Appendix D to the OST report.

Most of the OST report's recommendations were referenced in Secretary Peters' letter. However, there were a few additional recommendations not contained in the letter. The OST report recommended that efforts to prevent moisture intrusion into the Tower and prevent condensation from forming be continued by implementing recommendations submitted to the

³ The extent of this mold was not identified in the initial report but is discussed in the second supplemental report.

FAA in the August 31, 2005, Jacobs Engineering moisture assessment report. These included installing a cooling coil into the ductwork to remove moisture from the outside air, cutting the bottom ¼ inch of gypsum wallboard above the floor slab to prevent wicking of moisture into the panel, installing a fire rated sealant between the floor slab and gypsum wallboard, eliminating situations where moist warm air can contact cool surfaces, and removal of the drywall from all storage rooms in the Tower. The OST report also contained a recommendation to review the DTW Tower’s policies to ensure employees were encouraged to report work-related health and medical problems and to continue to immediately remove and replace water damaged building materials from the base building as necessary.

The FAA submitted a response to the OST report. The FAA claimed to have diligently pursued the remediation of the mold and represented that it had spent in excess of one million dollars to date on remediation and modification efforts. The FAA believed that the Tower and base building “provide a safe and healthful work environment for [its] employees.” The response noted the lack of indicators of poor air quality and lack of an elevated mold spore concentration. The FAA intended to implement the OST report’s recommendations. Its implementation plan for the recommendations was outlined in attachment 1 to the memorandum. The following chart summarizes the FAA’s action plan to accomplish the recommendations contained in the OST report, as of September 27, 2008:

OST Investigative Report Recommendation	Anticipated Completion Date by FAA
A. Comprehensive inspection of wall cavities on every floor of Tower	December 31, 2008
B. Remove all molded and water damaged materials from Tower	“as soon as possible”
C. Develop a mold remediation project communication plan for the facility	October 1, 2008
D. Remove unnecessary wallboard and carpeting from unoccupied areas of the Tower; remove any wallboard in contact with concrete floors	“as soon as possible”
E. Evaluate the fire rating of cement backer board and mold resistant/ paperless wallboard	“as soon as possible”
F. Continue efforts to prevent moisture intrusion into the Tower and prevent condensation from forming	“as soon as possible”
G. Actively monitor moisture in the elevator shaft and unoccupied areas of the Tower and implement corrective actions as necessary	“on-going”

H. Review DTW Tower policies to ensure that employees are encouraged to report work-related health and medical problems	October 1, 2008
I. Evaluate other Leo Daly designed air traffic control towers for mold and moisture infiltration problems	December 31, 2008
J. Replace the leaking base building roof	March 30, 2009
K. Continue to immediately remove and replace water damaged building materials in the base building	These actions will continue but should not be necessary after the roof replacement
L. Develop roof project communication plan to educate employees about the roof project and the control efforts being implemented to ensure a safe working environment	October 1, 2008

The FAA also believed some information in the OST report was inaccurate or misleading. These items were outlined in attachment 2 to the memorandum and took the form of suggested revisions to the language of the report. The OST report stated in its Executive Summary that DTW Tower employees attributed a variety of symptoms to their exposure to mold and moisture in the Tower, but NIOSH failed to establish a link between the symptoms and the mold and moisture. The FAA disagreed with this wording. NIOSH’s July 24, 2006, report failed to establish a link between the DTW Tower’s mold and moisture issues and the development of asthma in individuals without previous asthma. NIOSH also could not find an association between the DTW Tower moisture issues and the development of Chlamydiae pneumonia. NIOSH cited research conducted by the Institute of Medicine of the National Academies that the association between a damp indoor environment or exposure to moldy environments and skin symptoms, lower respiratory illness, fatigue, and immune diseases was either inadequate or insufficient. The FAA’s recommended language would omit reference to the employees’ attribution of their symptoms to the mold and moisture exposure and state that NIOSH reviewed the medical records provided by site employees and was unable to find an association between the employees’ symptoms and the moisture and mold issues.

The FAA also disagreed with the OST report’s statement that a biocide chemical was used to clean the elevator shaft. The FAA did not use a biocide. It used a deodorizer called Dri-Eaz Milgo SR, which is not marketed or approved by the EPA as a biocide. The only hazardous ingredient in the product was isopropyl alcohol (3-6 percent). While the manufacturer recommended “the addition of 8 ounces [of the product] per gallon [of unidentified liquid] for wall applications,” the FAA contractor only used two ounces per gallon. After the dilution, there was less than 0.5 percent alcohol in the liquid being sprayed.

The FAA criticized Mr. Sugent's use of Richard Shoemaker, M.D. as an expert.⁴ It cited a July 22, 2008, ruling in Young and Ghee v. Burton and Lewis & Tompkins from the U.S. District Court for the District of Columbia. The judge concluded that Dr. Shoemaker's diagnosis of the plaintiffs and his opinions regarding causation were not sufficiently grounded in scientifically valid principals and methods. His testimony had also been excluded in other jurisdictions, including Virginia, Florida, and Alabama. A judge in the District of Columbia Superior Court excluded Dr. Shoemaker's testimony because it was not generally accepted within the scientific community. On this basis, FAA did not find Dr. Shoemaker's work to be reliable.

The Whistleblowers' Comments on the Agency's Initial Report

All three whistleblowers provided comments on the agency's report. Ms. Dale submitted her comments to OSC on December 19, 2008. Her comments focused on the health effects that DTW Tower employees suffered and the reasons behind employees' failure to report them. While the Air Traffic Control Specialist Health Program stated that no one with health problems needed to be afraid to seek help, employees were not reporting certain health symptoms out of fear of losing their jobs. When Ms. Dale went for her annual FAA physical on September 17, 2007, she wrote down all the doctors she had seen and symptoms she had suffered during the past year, as required. Because she listed her visit with Dr. Shoemaker for mold-related illnesses, the flight surgeon pulled Ms. Dale's medical certificate, which forced her to exhaust her sick and annual leave before she was placed on Leave Without Pay. Ms. Dale was told that Kevin Barttelt, a supervisor, stated that Ms. Dale was "going to be another Parker or Eberhart." This statement was a reference to Air Traffic Controller Kim Eberhart, who was removed by the FAA due to medical issues and David Parker, one of the whistleblowers in this case, who was in the process of being removed because of medical issues.

Ms. Dale also disputed two statements in the agency's report. First, she disagreed with the agency's statement that the concentrations of airborne fungal spores detected were insignificant and did not indicate mold spore concentrations that would be likely to adversely impact employee health. She also disagreed with the statement that "[Stachybotrys] does not pose a health hazard more than any other mold or fungal spore that individuals can become sensitized to." Ms. Dale suggested that the chronic moisture problem was a red flag to a larger problem and questioned the quantity of mold spore exposure necessary to adversely impact someone's health. She asserted that certain people, such as she, are susceptible to illnesses caused by Stachybotrys and other molds due to a unique genotypic that they have. She noted that since she had been out of the DTW Tower environment, her health had improved. However, her colleagues who remained in the DTW Tower were getting worse. She included her own medical records to show precisely how the mold affected her and how her health improved after leaving the DTW Tower.

⁴ Dr. Shoemaker is a practitioner of family medicine in Pocomoke, MD and has authored books on biotoxin poisoning.

Mr. Sugent submitted his comments to OSC on December 31, 2008. His comments were extensive and highly critical of the report. Mr. Sugent referenced an October 1995, incident in the Nassif building⁵ in Washington, D.C. when Department of Transportation employees filled out a symptom survey regarding air quality, including mold. More than 90% of the respondents reported one or more symptoms. Mr. Sugent asserted that DTW Tower employees had some of the same symptoms as the Nassif building employees did in 1995. Mr. Sugent suggested that an employee health survey should be given to the DTW Tower employees. In the case of the Nassif building, OSHA performed interviews, sampling, and medical evaluations. OSHA performed none of these actions when it visited the DTW Tower. Mr. Sugent claimed that OSHA representatives refused to review medical files submitted by employees. Mr. Sugent expressed a similar concern as Ms. Dale that employees feared losing their medical certification if they reported their health issues. He stated that three employees had already lost their medical certifications and it was currently happening to a fourth employee.

Mr. Sugent disagreed with the FAA's dismissal of Dr. Shoemaker's methodology. Dr. Shoemaker's May 30, 2008, report documented the various injuries and illnesses that the agency claimed were not reported. Mr. Sugent noted that Dr. Shoemaker had testified in court on 25 separate occasions as well as testified before the U.S. Senate Committee on Health, Education, Labor, and Pensions. He also noted that the FAA never commissioned Dr. Shoemaker's inspection as the FAA suggested on page 6 of its response. Mr. Sugent provided a December 20, 2008, letter from Dr. Shoemaker as attachment 1 to his comments. The letter provided an overview of his methodology and the findings of his May 2008 report.

Like Ms. Dale, Mr. Sugent challenged the OST report's claim that "[t]he concentrations of airborne fungal spores detected [were] 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." Mr. Sugent asserted that the OST report contradicted this statement when the investigators expressed their agreement with the findings of the July 24, 2006, NIOSH health hazard evaluation. The NIOSH evaluation stated, in part: "Mold contamination on drywall resulted in employee's health concerns. . . . Until this [mold] remediation takes place, the employees who experience upper airway symptoms when exposed to mold may continue to experience them."

Mr. Sugent commented on other statements in the report, including Secretary Peters' statement that "the measured airborne fungal spores detected within the facility do not indicate elevated mold spore concentrations that would be likely to adversely impact employee health." Mr. Sugent believed the employees' health symptoms and medical records supported the notion that Tower employees were suffering from mold-related health effects. Regarding the FAA's assertion that indoor concentrations of mold were consistently lower than outdoor concentrations, Mr. Sugent did not disagree with that point, but he argued that it should be a beginning and not an end to the analysis. He noted the importance of three types of mold found indoors that were not found outdoors: *Stachybotrys*, *Aspergillus versicolor*, and *Ulocladium*.

⁵ The Nassif Building is the former headquarters of the DOT. Employees complained of symptoms purportedly caused by odors on the eighth and ninth floors of the building.

Mr. Sugent disputed the accuracy of the investigators' statement that the measured air quality data did not reveal any indicators of poor indoor air quality for the Tower or base building. He believed that the data in Table 3 of Appendix D to the report contradicted this statement. He also stated that the morning air monitoring was conducted before the wall cavities were cut open, contrary to the OST report's claim. He disagreed with the OST report's statement that *Stachybotrys* spores did "not pose a health hazard more than any other mold or fungal spore that individuals can become sensitized to." Mr. Sugent explained that *Stachybotrys* produces mycotoxins, which are poisonous compounds found in or on various parts of fungal organisms.

Mr. Sugent questioned the OST report's assertion that the elevator shaft was not a conduit or active pathway for mold spores to travel within the facility. As evidence, he cited the report's reference to fungal growth on the back side of the elevator shaft liner boards, the fact that areas of the elevator shaft had been previously cleaned, the moisture tracking in areas of the elevator shaft, the lack of caulking in the elevator liner panels' metal tracks, and the presence of air supply and return vents in the elevator shaft.

Mr. Sugent disagreed with the OST report's assertion that the recorded humidity measurements were within legal and regulatory limits, or insignificantly below the American Society of Heating, Refrigerating and Air Conditioning Engineers' recommended ranges. He noted that none of the indoor humidity measurements were within the recommended humidity range of 40-60% for the summer season. Mr. Sugent enlisted the expert assistance of Mr. Pinto, Wonder Makers Environmental, in preparing his response to this report. A list of 22 perceived factual errors in the OST Report, including this one, was contained in a November 24, 2008, letter from Mr. Pinto to Mr. Sugent. Mr. Sugent attached this letter as exhibit 2 to his comments.

Mr. Sugent referenced statements suggesting the mold remediation had been completed. These statements were made in 2007 by Mr. Sturgell, then Acting Chief Operating Officer, FAA, and Steve Zaidman, then Vice-President, Technical Operations Services, FAA. These statements were included as exhibit 3 to his comments. Mr. Sugent opined now that the FAA's previous statements about the remediation have proven to be inaccurate, the FAA had resorted to misrepresenting data and demeaning employee health complaints. He believed that FAA would remove identified molded material but would continue to make the same mistakes and waste money.

Mr. Sugent also criticized the FAA's proposed responses to the report's recommendations, including the FAA's statement that it planned to improve communication. He referenced a November 5, 2008, meeting regarding mold and roof repairs. The FAA knew about upcoming intrusive inspections but did not mention them to the attendees at the meeting. Mr. Sugent was unable to get a copy of the scope of work document for the roof replacement project despite numerous requests.

Mr. Sugent commented on the inadequacy of the roof replacement process. When the roof removal project began, pieces of the roof broke into half dollar sized pieces and blew onto the tarmac where aircraft were parked. Mr. Sugent believed this problem could have been avoided

with a proper roof inspection. Mr. Sugent believed that the December 2008, inspection was done without any environmental controls and it disregarded industry standards and employee health. Specifically, Mr. Sugent referenced 11 violations of protocols, which were listed in exhibit 4 to his comments. Mr. Sugent concluded his comments by stating that he and other DTW Tower employees feared that future mold inspections or remediation efforts would place them at grave risk.

Mr. Parker submitted comments to OSC on February 17, 2009. When he first started working at the DTW Tower in June 2002, he quickly noticed the chronic illnesses and excessive sick leave usage among employees. He thought the illnesses and sick leave usage were a result of excessive workloads. He later realized that the workloads at DTW were less than at his previous facility. Between 2002 and 2004, Mr. Parker observed unusually high levels of behavioral issues, such as high sick leave, face to face confrontations, falls, pushing, shoving, and chronic coughing. He estimated that up to 70% of his shift's workers were sick at the same time and still reported for work to avoid administrative punishment. Mr. Parker believed the DTW management was inept and failed to consider seriously the accusations of trouble at the facility.

Mr. Parker described his medical issues that he believed were caused by exposure to the mold. His entire body was affected. He had dermal sores, an unusual cancer in an unusual location, ocular invasion, neurological issues, digestive issues, and multiple breathing disorders. He also suffered a herniated disc due to uncontrolled coughing. Treating the herniated disk required painful injections and a C6-C7-T1 surgery. Further surgeries were planned on other locations of his spine.

Mr. Parker had visited nearly 60 physicians and taken over 30 prescription medications. He estimated his medical expenses have exceeded a quarter of a million dollars. He received lies, denials, and distortions from his local management and believed they were guided by higher levels at the FAA. Instead of offering him work other than as a controller, Mr. Parker claimed he was retaliated against. The warnings on sick leave abuse given to DTW Tower employees continued up until the discovery and acknowledgement of mold in the facility.

First Supplemental Report of the U.S. Department of Transportation

After reviewing the agency's report, OSC contacted DOT regarding the status of the OST report's recommendations. Specifically, OSC requested an updated recommendation tracking sheet, the report of inspections of the other Leo Daly air traffic control towers, the employee communication plan, and any changes in policy regarding work-related employee health concerns. OSC also requested that an employee health survey be conducted on current and former employees of the DTW Tower. In response, DOT e-mailed OSC the requested documents. OSC subsequently received a letter from Judith S. Kaleta, Assistant General Counsel for General Law, OST, dated April 2, 2009, indicating that DOT intended that these documents should be treated as a supplemental report.

The supplemental report contained an OST Tracking Sheet containing the status of the recommendations of the OST report as of February 11, 2009.

OST Investigative Report Recommendation	Anticipated Completion Date by FAA
A. Comprehensive inspection of wall cavities on every floor of Tower	Completed December 12, 2008
B. Remove all molded and water damaged materials from Tower	“Target Goal [Fiscal Year 2009]”
C. Develop a mold remediation project communication plan for the facility	Completed September 25, 2008
D. Remove unnecessary wallboard and carpeting from unoccupied areas of the Tower; remove any wallboard in contact with concrete floors	“Target Goal [Fiscal Year 2009]”
E. Evaluate the fire rating of cement backer board and mold resistant/ paperless wallboard	“Target Goal [Fiscal Year 2009]”
F. Continue efforts to prevent moisture intrusion into the Tower and prevent condensation from forming	“Target Goal [Fiscal Year 2009]”
G. Actively monitor moisture in the elevator shaft and unoccupied areas of the Tower and implement corrective actions as necessary	“Ongoing”
H. Review DTW Tower policies to ensure that employees are encouraged to report work-related health and medical problems	Completed October 1, 2008
I. Evaluate other Leo Daly designed air traffic control towers for mold and moisture infiltration problems	Completed December 11, 2008
J. Replace the leaking base building roof	Completed January 21, 2009, but there was an issue with the termination bar installation that will be addressed when temperatures rise above 40 degrees
K. Continue to immediately remove and replace water damaged building materials in the base building	“Continuous”
L. Develop roof project communication plan to educate	Completed September 25, 2008

employees about the roof project and the control efforts being implemented to ensure a safe working environment	
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The supplemental report contained a March 25, 2009, report of evaluation of Leo Daly designed air traffic control towers. The report was originally dated December 28, 2008, but was updated to correct an inaccurate statement. The December 28, 2008, version incorrectly stated that the investigation was performed pursuant to a Congressional request instead of pursuant to the OSC referral. Applied Environmental, Inc. (Applied Environmental), a subcontractor of Lockheed Martin Service, Inc., performed visual inspections on 14 air traffic control towers at 13 different airports, including two at Dallas/Fort Worth International Airport. These towers were either designed by Leo Daly or were modifications of a Leo Daly design made by other architectural firms.

While small amounts of mold were found in many of the towers, the inspectors did not identify a consistent pattern of design or construction defects that would give rise to mold or water incursion problems. Nine of the 14 towers had past mold-related problems reported, although the report explained that some of these problems were due to internal issues, like plumbing, rather than from water incursion through the building envelopes. The inspectors also did not observe adverse health effects among the 14 air traffic control towers' employees. Because only Volume 1 of the report was initially provided to OSC, OSC requested Appendices A and B and Volume 2. These materials included a table of the relevant documents, photographs, and copies of the relevant documents that were reviewed, respectively. OSC received these additional materials on April 27, 2009. OSC provided all the materials in the supplemental report to the whistleblowers on June 8, 2009.

The supplemental report included a two-page September 25, 2008, communication plan to ensure that information about mold remediation, roof repair, and other water intrusion and condensation projects was communicated between managers, employees, Environmental and Occupational Safety and Health (EOSH) professionals, project Resident Engineer (RE), and site contractors. The communication plan had three stages: prior to project commencement, during the project, and after project completion.

Prior to project commencement, local management was to hold a meeting with the project RE, EOSH professionals, contractors, and union representatives. The meeting would discuss the scope of the work, locations, project schedule, hazards, controls, sampling plan, communications of project status, impacts to employees, Material Safety Data Sheets, contingency plans, and background and historical information. A question and answer session would also take place. Local management would give employees a memorandum containing the scope of the work, locations, project schedule, hazards, and a location where work information would be posted. A checklist was also to be prepared to identify safety and environmental hazards.

During the project, the project RE was to maintain communication with local management and EOSH professionals. The contractor or project RE was to provide a briefing, which contained a summary of the work accomplished, upcoming schedule, monitoring results, and significant changes to the project, to local management after each shift. Local management would post these briefings in a designated location for employees to review. Local management was also to host daily or periodic meetings to communicate project status and upcoming events. Employees were to be able to submit questions or concerns to their supervisors. The project RE would notify the EOSH professional, contracting officer, and local management when the project was completed. Local management would then communicate this information to employees.

The supplemental report included two memoranda containing information on the DTW base building roof project. The first memorandum, dated October 24, 2008, explained that the roof project was scheduled to begin construction on November 12, 2008. A preconstruction meeting was scheduled for November 5, 2008. The memorandum referenced the communication plan's daily briefings that were open to all employees. Questions and answers from these briefings would be posted on the Technical Operations Employee Bulletin Board.

The second memorandum, dated December 5, 2008, informed employees that the contractors would construct a debris barrier to alleviate the potential of foreign objects and debris from impacting airport operations during the roof work. TRACON operations were to be relocated during each night of roof work. NACTA representatives made two suggestions that were rejected. The suggestion to use air scrubbers was rejected, because their benefits were deemed to be unclear. The suggestion to use Poly Hangers or a Smart Seal System, which hang below the ceiling and are designed to catch debris, was rejected because they were deemed to reduce air quality and have increased likelihood of an adverse impact to the National Airspace System systems and operations.

The last item contained in the supplemental report was an e-mailed response from Debra Rosen, Senior Attorney, DOT Office of General Counsel, on March 20, 2009, regarding OSC's request for an employee health survey. DOT had considered whether to conduct a health survey but decided that it would not be beneficial after discussions with NIOSH. "NIOSH advised [DOT] that health surveys are typically conducted early in the process when people are ill and the source of the problem is unknown." Ms. Rosen noted that in the case of the DTW Tower, it is already known that there were moisture and mold problems and every effort was being made to remedy the problems. As a result, DOT determined that the most prudent use of its resources was to focus on the mold and moisture remediation.

Ms. Rosen's e-mail clarified DOT's position with respect to the employees' health concerns. DOT did not dispute the employees' health concerns, but its investigation could not establish a direct link between mold in the DTW Tower and the employees' health. Ms. Rosen noted that there were no legal or regulatory standards for determining mold exposure. Additionally, the mold found in the Tower was located in unoccupied areas and DOT determined that the Tower's elevator shaft was not a conduit for mold spores traveling within the facility. The mold spores in the Tower cab were of a lower concentration than mold found outdoors. Had

visible mold or elevated mold spore concentrations been found in occupied areas, “it is likely that [DOT] would have made the link between the mold and the adverse health effects.”

The Whistleblowers’ Comments on the Agency’s First Supplemental Report

Mr. Parker declined to submit comments on the first supplemental report while Ms. Dale submitted brief comments. Specifically, she commented on Item H of the February 11, 2009, OST Tracking Sheet, which was the recommendation to review the policies to ensure that employees were encouraged to report work-related health and medical problems. She believed a review of the policies was not sufficient. She recollected her own experience when she was ill due to the mold. She was prevented from working, exhausted her annual and sick leave, and was forced to go on Leave Without Pay status. She claimed that the DTW management was not only indifferent to both her health concerns and the fact that the Tower was making her sick but also that management attempted to terminate her during this period. As a result, the problems in DTW management ran deep and could not be remedied by a policy review. She also questioned why any other employees would report their own health concerns after witnessing her experience.

Mr. Sugent commented on several areas of the first supplemental report. He initially commented on the base building roof project. He noted that the indoor air quality sampling plan did not test for mold and other biological contaminants released by the activities on the roof. The sampling plan also did not test for carbon dioxide or nitrates that were produced by the welding fumes. Mr. Sugent criticized the decision not to use air scrubbers, Poly Hangers, or a Smart Seal System. While the agency believed they would reduce air quality, Mr. Sugent maintained that they would have provided an extra level of protection from the contaminants during the roof work. He believed the FAA’s September 25, 2006, Indoor Air Quality Implementation Guidance supported his position.

Mr. Sugent next commented on what he perceived to be an inconsistent justification by the agency for not conducting an employee health survey. NIOSH advises conducting a health survey early in the process when people are ill and the source of the illness is unknown. In the case of the DTW Tower, the agency was aware of mold and moisture problems and employee health concerns, but the agency did not establish a direct link between the mold and employee health. According to the NIOSH advice, Mr. Sugent believed that agency’s inability to find the source of the illnesses should have justified the use of a health survey.

Mr. Sugent commented simultaneously on the agency’s open communication plan and the inspection of the other Leo Daly towers. He contended that the agency gave minimal notice to employees before a December 2008 invasive inspection and February 2009 and June 2009 remediation work. Mr. Sugent criticized DTW employees’ inability to have their experts present at question and answer sessions with the agency. In his contact with representatives from the other Leo Daly towers, he noted that the employees of the other towers were not aware that inspections had taken place and they were not given copies of the report. He questioned how the agency could conclude that no adverse health reports were observed at the other towers when the employees did not even know that an inspection was taking place. The inspections of the other

towers were conducted by Applied Environmental. When he met with Applied Environmental's CIH during an inspection at DTW in 2007, Mr. Sugent was not able to give any of his personal medical information or documentation and findings from past inspections at the DTW Tower to the CIH. Mr. Sugent observed that the CIH took no mold samples, humidity level readings, or temperature recordings. The CIH conducted only a visual inspection. Mr. Sugent suggested that these same flawed techniques were used at the other Leo Daly towers.

In addition, Mr. Sugent questioned the accuracy of comments made by Robert Sturgell, former FAA Acting Administrator, including a September 17, 2008, statement that the DTW Tower provided a "safe and healthful work environment . . ." He also questioned a portion of Mr. Sturgell's November 7, 2008, letter to Congressman John D. Dingell in which he claimed that in general "the occupied [DTW] tower spaces have better air quality than the outside air." Mr. Sugent maintained that these statements were deliberately misrepresented.

Mr. Sugent concluded his comments by incorporating eight recommendations made by Mr. Pinto in a July 6, 2009, letter that was included as an attachment to Mr. Sugent's comments. As with the initial report, Mr. Sugent relied upon Mr. Pinto's expert assistance in drafting his comments. The July 6, 2009, letter prefaced a large volume of documents provided by Mr. Pinto that responded directly to the documents included in the agency's first supplemental report. In most cases, Mr. Pinto wrote an individual response to each document provided by the agency.

Second Supplemental Report of the U.S. Department of Transportation

On September 8, 2009, OSC requested that the agency provide more information on three topics raised by the initial and first supplemental reports and the whistleblowers' comments: policies regarding the reporting of work-related health and medical problems, an employee health survey, and the June 2008 inspection for which documentation had not been provided. OSC received the agency's response on October 9, 2009. With respect to the reporting of work-related health and medical problems, FAA management reviewed Chapter 1 of the FAA Occupational Safety and Health Program as well as its labor agreements. Management found that the existing "policy and labor agreements supported an environment at the [DTW Tower] which encouraged employees to report health and safety concerns." The DTW Project Communication Plan was intended to provide an additional venue for employees to raise and discuss safety concerns. The report also noted a significant change, describing the relationship between the FAA and union as being more collaborative since the May 2008 inspection.

In support of this collaborative relationship, the agency agreed that a health survey will be conducted at DTW by Dr. Eugene C. Cole. Dr. Cole and an independent review board will conduct qualitative and quantitative studies. Other collaborative events have taken place in 2009. After the decision was made on January 29, 2009, to start fresh on the inspection and remediation effort at DTW, FAA agreed to coordinate future remediation efforts with the bargaining union. On March 18, 2009, FAA and the bargaining union met to work on a list of qualified persons to assist in the evaluation of the engineering causes of the facility's mold and water intrusion problems and to remediate any findings. It was also agreed that the union's technical liaison, Wonder Makers Environmental, would be allowed to participate in the

planning and remediation effort. The FAA and bargaining union agreed to the consultant team, known as the “Integrated Team,” on March 31, 2009. The Integrated Team, FAA, and the bargaining union had a kickoff meeting between July 21 and July 23, 2009, to begin initial site assessment and planning. Between August 20, 2009, and September 18, 2009, the Integrated Team “implemented their developed comprehensive background mold and contaminants sampling plan, building envelope and engineering evaluation, and heating, ventilation, and air conditioning (HVAC) evaluation.”

In response to OSC’s questions about the previous decision not to have an employee health survey, the agency indicated that it was told by NIOSH that a survey was not needed because problems were already identified at the facility. The agency determined that it would be most prudent to focus its resources on remediation. While a draft of the initial OST report recommended conducting an employee health survey, the decision to remove the recommendation was made by the Office of the Secretary of Transportation. Nevertheless, as stated above, a survey is to be conducted.

The report also provided information on the results of the June 2008 inspection, which was independent from the OST inspection. Floors 2 through 10 were inspected. Mold was found on the fourth, fifth and ninth floors and suspect staining was found on the sixth, seventh and eighth floors of the Tower. The largest areas of mold were found on the ninth floor where three locations each contained between six and eight square feet of mold. The purpose of this inspection was to develop a detailed statement of work. This statement, which was included as an attachment to the report, contained the agency’s plan to remediate the mold in June 2008. Also included with the report as attachments were the FAA Project Review Tracking sheet, the Specification Microbiological Remediation at Detroit Metropolitan Airport Air Traffic Control Tower, a one-page DTW Trip Report dated June 12, 2008, and a document setting forth the approach to be taken with the DTW Tower employee health survey. The Trip Report contained visual observations from the June 2008 inspection. According to this report, there was “[n]o visible trace of standing water or further leaking from the precast joints” and there were “absolutely no traces of moisture” between the drywall and precast behind the plywood access panel in the old NACTA office.

The Whistleblowers’ Comments on the Agency’s Second Supplemental Report

Mr. Parker and Ms. Dale declined to comment on the second supplemental report, but Mr. Sugent provided comments. He began his comments by focusing on perceived inaccuracies in the June 12, 2008, Trip Report in light of recent findings. Specifically, he noted that the Building Science Commission’s (BSC) October 26, 2009, report contradicted the Trip Report’s statement that there was no visible trace of standing water or further leaking from the precast joints. The BSC is a member of the Integrated Team. Mr. Sugent included a copy of the report as an attachment to his comments. He also claimed that the BSC report contradicted the Trip Report’s claim that there was no trace of moisture behind the plywood access panel in the old NACTA office. Similarly, Mr. Sugent cited BJJ Environmental Solutions’ (BJJ) October 31, 2009, report to contradict the Trip Report’s claim that there were no complaints or major problems with the mechanical system. BJJ is another member of the Integrated Team and its

report was included as an attachment to Mr. Sugent's comments. The BJJ report noted that the addition of the unit heaters between levels 3 and 10 of the Tower in 2006 exacerbated an already "high risk of moisture condensation of surfaces" caused by the temperature conditions in the Tower shaft. Mr. Sugent also believed the BJJ report rebutted the agency's claim that the elevator shaft is not a conduit for mold spores to travel through the facility.

Mr. Sugent described the relationship between the FAA and unions as not being as collaborative as the agency claimed. He referenced the lack of notification to union members of certain projects and the inability to participate in the drafting of scopes of work. He noted that employee concerns about employee health and the handling of the roof replacement were not addressed or answered. Indeed, during the December 2008 inspection, 11 CA-1 forms were filed by employees for injuries, and the BSC report recommended replacing the roof once again.

Mr. Sugent agreed with the agency's description of how the employee health survey will be conducted. His initial concerns with the anonymity of participants have been satisfactorily addressed. However, other employees remain concerned that the agency will use the information in the surveys to harass or retaliate. Mr. Sugent expressed his continued dissatisfaction with the agency's previous rationale for not conducting the survey.

Mr. Sugent concluded his comments by expressing his belief that the BSC and BJJ reports showed that the agency's inspections "were inadequate, deficient and incompetently performed." He maintained that proper inspections by qualified individuals could have identified and corrected the problems earlier. He also referenced a November 10, 2009, memorandum from the agency, which was included as an attachment to his comments. This memorandum provided a good summary of the status of the problems and planned remediation at the DTW Tower as of that date:

"The water intrusion problems in the building are caused by leaks in the structure near the microwave dishes, condensation due to poor insulation, and a leaky roof over the base building. Contributing to air quality problems in the building are mold contamination and other issues in the HVAC system, poor pressure control, and previous mold control efforts. In addition, the building does not provide for adequate fire/safety. . . . The actual remediation will be a huge effort that may take up to 3 years to complete. Most, if not all of the drywall in the tower and base building will need to be replaced; the HVAC system will need to be cleaned twice, redesigned, and rebuilt; the base building roof torn off and replaced; new walls and doorways constructed; and the fire integrity restored."

Findings of the Office of Special Counsel

Over five years have passed since the mold problems were discovered and nearly two years have transpired since OSC referred the allegations of Ms. Dale, Mr. Parker, and Mr. Sugent to

the Secretary of Transportation. More than a million dollars has been spent on inspections and remediation of the DTW Tower and base building. Much progress has been made in determining the causes of the Tower's mold and moisture problems and plans are being made to correct those deficiencies. However, until this work occurs, employees will continue to work in an environment in which conditions are ideal for mold growth. The employee health survey will assist in discovering the extent to which the DTW employees have been affected by their work environment. The attention of the Michigan Congressional delegation, the dedication of the whistleblowers and their union, and the participation by OSC have all contributed to a process that has resulted in the FAA acknowledging serious structural flaws, which allow moisture intrusion and mold growth. OSC has determined the agency's findings to be reasonable, and the reports contained all the information required by statute. It is our hope that the agency will continue its cooperation with the whistleblowers and their union, and the mold and moisture problems can be resolved to the satisfaction of all involved parties.