

**Conservation/UW-EX Education Committee and the Buildings and Grounds Committee Joint  
Meeting on Air Quality Report  
April 6, 2016  
Minutes**

**Committee members present:** Chairman Tom Rudolph, Bob Mott, Robb Jensen, and Scott Holewinski and Jim Intrepidi. Kim Simac Excused.

**Others present:** Tom Schmitz, Greg Oettinger, Billy Fried, Lisa Charbarneau, Bruce Stefonek, Brian Desmond, Joe Brauer, Lynn Feldman, Myles Alexander, Sara Richie, Karly Johnson, Anne Williams, and Merry Lehner.

**Call to order:** The meeting was called to order by Chairman Rudolph at 2:10 p.m. noting the meeting has been properly posted and the facility is handicap accessible.

**Approve Agenda:** Motion by Jensen/Intrepidi to approve today's agenda as presented at the Chair's discretion. All ayes; motion carried. A motion to approve agenda was made by Holewinski/Oettinger of the Buildings and Grounds Committee. All ayes; motion carried.

**Results of Air Quality Study and Options to Address:**

Daniel Karamanski, UW-Extension Director of Health, Safety and Risk Management, summarized how about one year ago some of the reports about air quality concerns at the Extension office were brought to his attention. Past reports completed by OSHA and by Northstar Consultants of Mosinee, requested by the Airport Commission were reviewed by Karamanski. He deemed that no further studies be conducted on air quality. His purpose was to evaluate whether or not there was a regulated health air issue present affecting employees. This was an institutional due diligence action and to ensure employee safety. The study was completed while the cold temperatures were present due to most fumes being reported in the winter months. They retained Bessa & Associates to conduct an Industrial Hygiene survey of air quality. The study took place Feb 9 through 12 to monitor for diesel exhaust and particulate. Monitoring for diesel exhaust is complicated because portions of the exhaust are indicators and analyzed as analogs. Karamanski wanted to show the test in context of various standards in which some are regulatory standards and some are not. The OSHA standards tend to be more dated. Suggestions for possible improvements could be made by the consultant, but no evaluation of the HVAC system would be offered. The focus was to monitor and observe regulatory limits. The final outcome of the investigation was to ensure that this information is used to deliberate in making a decision based on all its costs, benefits, and risks.

Specific nitrogen dioxide detection was present during the departure and arrival times of aircraft as outlined on report page 5 under 4.0. Nitrogen dioxide is used as a surrogate as one of the analogs used to detect diesel exhaust. With the detection of the nitrogen dioxide, odor reports and smoke tests provided data along with observational data that would indicate a pathway for presence of diesel odors. Low concentrations of nitrogen dioxide may cause respiratory issues. Results showed no clear correlations for carbon dioxide and carbon particulate levels and the aircraft schedule. Carbon dioxide indicators were too varied with too many background factors. Based on this and past reports, the data shows that we do not exceed regulatory limits. The levels of detection show that no further monitoring studies would be necessary related to these limits. There is another level of air quality that can cause irritation for which no government standards can make recommendations. That air quality is related to exposing employees to conditions that fall under non-regulatory limits. This is referenced to page 2 of the report where highest concentrations of 658 are well within normal of non-regulatory limits. This does not mean this level of air quality should not be observed.

Observations by Karamanski are based on the reports and logs which indicate that employees are affected by the indoor air quality of this facility. Employees having to exit the building when fumes are noticed suggests

that it does affect work performance. Some employees have linked their health symptoms to these office IAQ (Indoor Air Quality) issues. There are periodic intrusions of diesel fumes into the office. Pathways have been identified where the fumes and flight schedules can account for some of the observations reported by employees. The measured exposure levels of these analog chemicals do not exceed or closely approach regulatory limits and no further air monitoring is recommended. Air quality issues going forward will be approached on a report basis rather than a monitoring basis. Air quality has affected several staff and must be addressed as an office issue, and not on an individual basis. His suggestions for the future are to continue working with the county and the airport to address the diesel intrusions. Further suggestions are to engage a hygienist, HVAC consultant, or engineer to best identify possible solutions to the air quality.

### **Questions and Comments:**

Rudolph: Could we conclude that regulatory levels are much too lenient or too high and that the lower levels or permitted levels are affecting employees? The logs show that there were some serious incidents especially on February 9. Why did the equipment not pick up this data?

Karamanski: The explanation the consultant provides is that the human nose is sensitive to a greater degree than some of the scientific monitoring equipment currently available.

Alexander: The olfactory nerve is a transit way for chemicals to go directly to the brain. Undetected and low levels of chemicals will still cross the blood-brain barrier.

Rudolph: Why do the federal regulators not take this into consideration?

Fried: There are different levels that can be detected and measured as healthy or unhealthy; that is was put in the report. What humans detect as smells is perceived differently by people. He didn't feel odors were a measure in the report. What is IADQ?

Karamanski: Indoor Air Quality.

Fried: What was used to measure air flow?

Karamanski: There were three air pumps that draw air through them to collect matter on filters. There was also a particulate meter sampling particulate used as an overall indicator. Three more monitors measured the nitrogen oxides. Those were placed at three different locations to download data.

Fried: The Buildings and Grounds Committee would like to know if there is a monitor that could permanently be mounted. No. It would have to measure something specific. There are so many different components to detect diesel fumes that it would be very difficult to conclude anything from this. The levels devices found were low. The odor threshold for the human nose is sensitive to different chemicals and it is very sensitive to diesel fumes.

Mott: Are there different standards on the type of work place?

Karamanski: There are different standards for workplaces but they are more limited to heavy industry such as mining or shipbuilding. For offices and airports the standards are the same.

Mott: Is there any special filter that could be used? The entire HVAC system would have all the pathways specifically identified and then be re-installed. It would be difficult to track where the fumes are coming from and then a building an engineer would have to be involved. Mott: Would a hygienist tell where those fumes would be coming from? The industrial hygiene field does specialize on health impact and could address indoor air quality.

Jensen: So the report shows an acceptable range but employees are noticing fumes and at time feel a need to leave. What are the solutions? Are there any local devices that can be installed to alleviate air issues?

Karamanski: The building, HVAC systems, where air is being drawn in, all are building specific and make it difficult to compare cases. It is a case by case situation for buildings. It can become very individualized as far as the situation and buildings.

Brauer: R/CAD (Refrigeration Control and Design) Rhinelander, WI works with the Airport and the County as consultants to engineer air balance and air building control. As referenced on see page 6, item number 5.2. Install exhaust fan in conveyor area. A negative pressure fan was already installed the back in November. Rudolph asked if it the exhaust fan was adequate if the fumes are still present. Stan Grys from R/CAD would be able to explain better than Brauer, he said, as he is not an engineer.

Fried: Grys stated that every building is different related to air issues and location of the air take. When the garage doors are opened changes pressure in building and when the garage door is opened people will experience as sensitivity to diesel fumes. His conclusions to the report are that there still is sensitivity to the smell. The County wants to know how to get rid of it. Can an ionizing fan be installed or add more filters to the system. Grys said filters would restrict the power of the existing fan system. Each office could have individual fans or filter systems bases on the individual, but this solution is questionable. Ionization fans would work but not sure if it will help a person with sensitivities. The Airport has made efforts to remedy the situation. An air tunnel was installed and the wall was put up by the conveyor room. Grys reviewed the report and felt some things were missing that might comfort people such as sharing the standards for clean air and the report shows building is within the standards, but there is still sensitivity to the smell of diesel.

Rudolph: Bottom line remains that some people are experiencing health issues related to the air quality. The surveys and monitoring will show the levels are within standards but regardless of regulations people are having a reaction to working under these conditions. Brauer asked if there was any evidence of health problems; had employees had been tested for chemicals in the blood stream. He said he understood the sensitivity to smell but is it a health issue.

Alexander: Sensitivity to smell is different than reacting to toxins in the air. These are two related but separate processes. Sensitivity to smell is a perception; a cognitive process. Reaction to chemicals is a biological process. One can react to chemicals in the air and it can travel via the olfactory nerve directly to the brain before it is perceived by the brain. It is not a reaction to smell it is a reaction to chemicals. That reaction is a health problem. There are no objective tests for this problem.

Holewinski: How often does this reaction occur and is there a sensitivity policy? How long are these concentrations in the air? Is it 15 minutes out of a 37 hour week? The air will not be 100% pure. What is ASHRAE? American Society of Heating, Refrigerating, and Air Conditioning Engineers.

Karamanski: There is no sensitivity policy for State or the County. No organization was found that has a sensitivity policy. These cases reported by employees are documented on a case by case basis. He asked the employees to document wind direction and frequency of the reports so there could be more in depth reporting available. One employee having an air quality issue in a building does not an IAQ issue make. There is not only one person reporting. Reports have spanned a number of years.

Schmitz: People are not leaving the building because they get a whiff of diesel fumes. They are leaving the building because their eyes are irritated and they start getting headaches from the fumes. This is documented in the logs.

Jensen: Can the Committee do anything if this report shows that air is within the acceptable standards? What are the options if the air is making people sick? What do we do? UW-Extension will still be able to file a complaint policy.

Rudolph: Bottom line is there is still an issue and what is going to be done about it.

Brauer: There are two doors in the garage and baggage area: one is to the North and one is to the East. Grys made the recommendation to open up both doors at same time so more air flow would be present. Brauer stated that people have grilled outside of building, and cars have idled outside and those fumes will come into the building as well. The fan currently in the airport baggage area kicks in when the doors are opened and exhausts the air outside. Stan Grys had brought up wind and smells are present when Northwest and north to north east winds are present. With a 10 mph wind it depressurizes the tunnel. Could the air be circulated better by opening both doors? It creates a wind tunnel which will possibly correct part of the problem. They will open both doors to see if this will make a difference regarding the presence of fumes.

Holewinski asked if Vilas and Oneida would combine offices which would eliminate the airport office and its problems. Schmitz said that the goal is to keep an Extension office in every county.

Jensen: What are the options? Will the doors correct the problem? If not what are the worst case and best case scenarios? Is there another or different option? Does the courthouse have any empty space? The answer is no, not with AIS LTEs returning for summer employment.

Building and Grounds: We wanted scientific proof of what was in the air first. Now the Committee can come to the County to propose or ask what we would want to do. Do we want to install ionic fans? Relocate? Options need to be presented.

Charbarneau: Listening to Grys from R/CAD and Karamanski speak in technical terms was helpful to see them working together as a team seeking solutions. Will the action of opening both the doors resolve the exhaust problems? Follow up on the results of the opened doors option must occur. Is it possible for Grys and a hygienist to come to the Extension office/Airport building areas to see what is else might not be working right?

Mott: We need to put some options together as Jensen mentioned. We know that the conditions are not technically illegal or something damaging to health, but Committee does not have the technical expertise to make a correct decision. The technical part of it needs to be examined. Who will come up with options? Will it be Building and Grounds?

Fried: The CUW Committee should make the decision on any improvements that can be accomplished. Workspace provided by County will do their best to provide the Extension with a healthy work environment. They want to be proactive and not draw this out but do things quickly. Then the Committee can come back and present it to the board.

Schmitz: He appreciates all coming together to resolve the issue. There are two types of employees; County and State. From State perspective there is not a violation of regulations. It does impact the employee's quality of work and impacts their performance. Some have adjusted schedules to avoid flight times. What is the proposal and cost of moving people elsewhere? What other adjustments can be made to existing office?

Fried: Are there State funds available? Schmitz replied that Alexander is using a filter Extension purchased more media for this machine as state funded.

Jensen: Administration has looked at engineering options. Does the two door open solution work or they would invest in coming together with experts to see what other solutions are available? Will something be done that is truly a solution or is there another acceptable solution? Next week per Rudolph, there will be cold NW winds check to see if door option will work. Many things have been done, but will the door being opened be a good enough solution.

Holewinski stated that testing is within parameters. Can't they test to see where fumes are coming in? There are two sources per Brauer. First, is the garage door opened creates a wind tunnel. Second, is air intake on SE corner of building is bringing in air and possibly fumes.

Holewinski: They need to find out where all of air is coming in. Can't they check existing filters?

Bauer: If the filters are too thick then you will not have enough air movement. There is a single air exchange in the building right now. You can smell the air in back of building before you smell it in the office. Once it gets into the air system there is nothing you can do; it will circulate. Even if Extension moves, Brauer stated that he would not be able to get new tenants in here, based on the history of air complaints. Grys may conclude that says there will never be 100% air quality. Brauer will try to get that in writing.

UW-Extension will work with Building and Grounds and R/CAD to get further input into situation.

**Next Steps:**

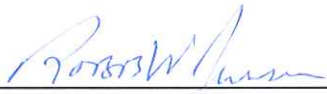
Discussion of what will be the next step decided by the committees took place. Monitoring the reporting of fumes with the doors now being open must take place. Those who will lead the way in reviewing options will include Daniel Karamanski, Stan Gryns, Tom Schmitz, and Bruce Stefonek.

**Adjournment:**

A motion to adjourn was made by Mott/Jensen of the CUW Committee and Fried/Oettinger from Building and Grounds also made a motion to adjourn at 3:45 p.m. All ayes; motion carried.

Respectfully Submitted,

  
Merry J. Lehner, Recording Secretary

  
Thomas Rudolph, Committee Chair

  
Billy Fried, Buildings & Grounds Committee Chair