

**2015 HOUSE HUMAN SERVICES**

**HB 1386**

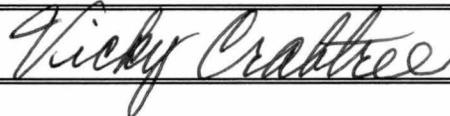
# 2015 HOUSE STANDING COMMITTEE MINUTES

Human Services Committee  
Fort Union Room, State Capitol

HB 1386  
2/2/2015  
Job 22986

- Subcommittee  
 Conference Committee

Committee Clerk Signature



## Explanation or reason for introduction of bill/resolution:

Relating to the duty of the health council to adopt rules relating to carbon monoxide levels in indoor ice arenas.

## Minutes:

Testimonies 1-2

Chairman Weisz opened the hearing on HB 1386.

Rep. Ben Hanson: Introduced and supported the bill. (See Testimony #1)

3:44

Rep. Porter: From what you said, we are to create a law and no one has to follow them?

Rep. Hanson: I meant to say I didn't envision this creating any new departments or FTEs or even part timers at the Health Dept. They would create standards set forward for our ice rinks and they certainly would have to comply. Does that answer your question?

Rep. Porter: Partially. It leaves the unknown. The reasons to have the standards and to have the levels set so they are constantly monitored. What are the requirements back on the owners for carbon monoxide equipment, monitoring and detection equipment?

Rep. Hanson: That is why I want to leave it to the Health Dept. We could adopt three other statutes from other states, but I didn't want to put those forward as I felt it was best to let the Health Dept. do it.

Rep. Porter: The comment you made that they could check the machine out once a year to make sure it is working properly. That really wouldn't do anything because typically these types of incidences happen when there is a malfunction of the equipment. If there wasn't an alarm system 24/7 there wouldn't be any sense in having the law.

Rep. Hanson: I don't know if we have enough adequate protection right now to monitor those air levels. I see the problem being the over producing of monoxide by the machine used in the industry and this would set up universal standards that we have the proper amount of detectors to detect carbon monoxide.

Rep. Kiefert: Being a contractor I know that part of the Zamboni code you have smoke alarm hardware and carbon monoxide tester there already. I think the problem you are seeing is that they have not been properly maintained or not being monitored.

Rep. Hanson: I think that might be correct and hopefully if we have some baseline standards for this the Health Dept. could set up that we could help prevent that more often if not completely.

Rep. Mooney: What we are really asking for out of this bill is to have the Health council look at arriving at a system of accountability to making sure the public building that have Zambonis or other device that produces carbon monoxide have a system of testing and regulating with the air quality is for public safety.

Rep. Hanson: A couple of clarifications. The way this bill is written is applying to ice rinks specifically. The standards would be set up by the Health Dept. I don't know what the health council is.

Rep. Fehr: It terms of this incidence, it sounds like quite a few people got sick. What happens afterwards? What do the owners of the rink do as a result of this?

Rep. Hanson: You are pointing to the Wisconsin rink that was referenced. I have no idea how the Wisconsin rink reacted to it.

Rep. Rich Becker: This handout you gave us says, "ND among states that don't regulate air quality". Do you know of anyone who has made the effort to talk to rinks around ND and gather their opinion? Do they monitor it? What is the common practice for rinks in ND?

Rep. Hanson: To my knowledge we have 68 rinks in ND. The Health Dept. takes an educational approach. If anyone asks them, they will instruct. The operators do not have their own standards to my knowledge. There is a national association of rinks and if you want some help with your rinks they help with x,y or z they sent out these recommendations to those governors and legislators of states that have rinks. So I don't know when, but ND got one.

Rep. Rich Becker: I have talked with Jody Hudson the general manager of the largest rink in ND a couple of years ago and asked him if, "Have you ever had a breakdown in the equipment or anyone getting sick?" He was not aware of any incident. I asked him, "How do you monitor?" He said they had a check system they run through. I was wondering if that could be a basis or standard others could apply?

Rep. Hanson: I certainly think that could be the case and maybe they have the standards the state could use or could help the Dept. of Health to set theirs.

16:13

Rep. Mitskog: Testified in support of the bill. Three years ago this happened. My daughters are figure skaters and a lot of time at the old arena in Wahpeton that has an old Zamboni. During Christmas break they were spending 6 hours a day on the ice for two

weeks and started to get headaches. I asked the arena manager if he monitored or check the monoxide levels and he said, "No, probably should be." They didn't have a detector. So we called in Great Plains and they monitored the air and it was close to 200 parts per million. Great Plains was very concerned by the high level. I inquired about the procedures when they use the Zamboni and if there is air quality policies in place to make sure carbon monoxide levels were being monitored. There was no policy. In ND we don't have policies in place and require mandatory monitoring.

Terry O'clair: Direct of the Air Quality Division from the Health Dept. provided information to the committee. (See Testimony #2)

21:27

Rep. Mooney: In Fargo, Grand Forks, Bismarck, Minot, Williston and Dickinson, those cities might have building inspectors that would go out and do air quality testing in various public buildings. What about our smaller communities and we have 70 of them? If we weren't to go through with legislation that would offer some regulation guidelines, than how would be sure that those children and families are safe in those areas?

O'Clair: I asked that question myself and I thought the first step would be to contact the larger cities' building inspectors that are already doing that. Maybe we could put resources together to handle that and develop a policy guidance. I do believe you would have to have an inspection program to follow up on those policies that are developed.

Rep. Porter: I was looking for the building code's chapter on the Century Code and having difficulty finding those. We built a building and park the ambulances in it and when they start up the give off carbon monoxide. When the carbon monoxide levels get to a certain level the sensors go off, a damper opens up and an exhaust fan kicks in until the sensor goes back to a normal level. When I asked why I had to buy that expensive system, I was told that it is in the building codes and a requirement of having a building. Are you aware of that being in the codes?

O'Clair: I haven't looked at the building codes myself. I suspect there is something like that in place.

Rep. Porter: If you could find those components of the building code I would appreciate being able to look at that.

O'Clair: We certainly will look into that.

Rep. Fehr: Have you or your department been aware of any concerns of ice rinks previous to this bill?

O'Clair: We became aware of the West Fargo incident and there were calls to our department regarding that. Does it happen routinely? I can't speak of that. We haven't been involved if it has happened before.

Rep. Fehr: Is the concern for smaller arenas and older equipment?

O'Clair: I don't know if it is only for the smaller rinks. We have had incidents with swimming pools in the past. It may be a boiler malfunction or something with the pools.

**NO OPPOSITION**

Chairman Weisz closed the hearing on HB 1386.

# 2015 HOUSE STANDING COMMITTEE MINUTES

Human Services Committee  
Fort Union Room, State Capitol

HB 1386  
2/10/2015  
Job #23560

- Subcommittee  
 Conference Committee

Committee Clerk Signature

*Vicky Crabtree*

## Minutes:

Chairman Weisz: Let's look at HB 1386. Health Dept. is going to adopt rules for ice arenas.

Rep. Fehr: I motion a Do Not Pass on HB 1386.

Rep. Porter: Second.

Rep. Mooney: Why a Do Not Pass?

Rep. Fehr: There clearly have been problems in some places. It is not clear that we have a problem in our ice rinks. I think this has taken care of itself without getting involved. Places are going to better ventilations and monitoring. I'm not sure that the state has to regulate everything.

Rep. Mooney: I agree we don't have to regulate everything, but when I think of the smaller rinks we have what about the safety of those places? I resist the do not pass based on the fact I don't have satisfactory evidence that we are doing this absolutely across the state and keeping the people safe.

Rep. Seibel: Terry O'Clair's testimony said, "My initial thoughts are that the bill may need a fiscal note to account for the purchase of carbon monoxide monitoring equipment, travel expenses and one FTE to prepare and promulgate the rules and perform inspections of the 70 sources."

Rep. Porter: I did follow up with individuals working with the building codes and with what we adapt as building codes. This is a bill for something that is already being done. I forwarded this to the Fire Chief of Bismarck who is also in charge of enforcing those building codes. He forwarded it to the expert inside of the building codes relating to mechanical engineering. Mr. Zambeck from Minot whose title is, building and mechanical inspector said to me, "I spoke with Joel Boespflug earlier today and he gave me this; The State of North Dakota adopts a set of model codes and a 2012 international mechanical code (IMC) is part of that model code. In the 2012 IMC is Chapter 4 that deals with ventilation rates for all buildings built in a jurisdiction that has adopted the model codes as set forth by the State of North Dakota. Chapter 4 of the IMC is only 6 pages and deals with

the ventilation error of buildings that are both private and public. This document is the only tool that is needed to control the quality of air in public buildings." The building inspectors and Fire Department feel that this is already covered and not necessary.

Rep. Oversen: Why have we had this problem where we have ice rinks that aren't monitoring levels and aren't being inspected to monitor those levels? I agree that it is being covered under existing building codes, but we are hearing that it is not.

Rep. Porter: It would depend on when the facility was built and what they are doing with it.

Rep. Oversen: Would it be your understanding that older buildings that don't fall under the newer regulations that would require the new ventilations systems; that there are building inspectors going out and recommending to put those monitors in place?

Rep. Porter: What this is asking is not a small scale recommendation. I don't know what they are doing or at what levels in those local areas.

Rep. D. Anderson: Six years ago I did some house remodeling and the electrician put the system in because he said when I do wiring now and the system is not there, I recommend putting it in the house. Things are changing slowly.

Rep. Mooney: Are they saying in grandfathered buildings they are recommending they do something so there isn't a buildup of carbon monoxide?

Rep. Porter: I have no idea.

ROLL CALL VOTE: 9 y 3 n 1 absent

MOTION CARRIED

Bill Carrier: Rep. D. Anderson.

Date: 2-10-15  
 Roll Call Vote #: 1

**2015 HOUSE STANDING COMMITTEE  
 ROLL CALL VOTES  
 BILL/RESOLUTION NO. 1386**

House Human Services Committee

Subcommittee

Amendment LC# or Description: \_\_\_\_\_

Recommendation:  Adopt Amendment  
 Do Pass  Do Not Pass  Without Committee Recommendation  
 As Amended  Rerefer to Appropriations  
 Place on Consent Calendar  
 Other Actions:  Reconsider  \_\_\_\_\_

Motion Made By Rep. Fehr Seconded By Rep. Porter

Representatives	Yes	No	Representatives	Yes	No
Chairman Weisz	✓		Rep. Mooney		✓
Vice-Chair Hofstad	✓		Rep. Muscha		✓
Rep. Bert Anderson	✓		Rep. Oversen		✓
Rep. Dick Anderson	✓				
Rep. Rich S. Becker	✓				
Rep. Damschen	✓				
Rep. Fehr	✓				
Rep. Kiefert	A				
Rep. Porter	✓				
Rep. Seibel	✓				

Total (Yes) 9 No 3

Absent 1

Floor Assignment Rep. D. Anderson

If the vote is on an amendment, briefly indicate intent:

**REPORT OF STANDING COMMITTEE**

**HB 1386: Human Services Committee (Rep. Weisz, Chairman) recommends DO NOT PASS (9 YEAS, 3 NAYS, 1 ABSENT AND NOT VOTING). HB 1386 was placed on the Eleventh order on the calendar.**

**2015 TESTIMONY**

**HB 1386**

#1

## HB 1386 Testimony; Rep. Ben Hanson

### House Committee on Human Services:

*February 2<sup>nd</sup>, 2015 testimony in regards to HB 1386; A BILL relating to the duty of the health council to adopt rules relating to carbon monoxide levels in indoor ice arenas.*

Mr. Chair, fellow committee members, for the record my name is Ben Hanson and I am a representative from District 16 in Fargo and West Fargo. I stand before you today to testify in favor HB 1386.

North Dakota is a state that loves sports and among the many we play, watch and support our kids in is hockey. As everyone knows, the Zamboni is the preferred machine for smoothing out the ice sheets that we play on and have been for many years. Recently it came to my attention that the Teamsters arena, located in Fargo, had had a case of dozens of players get headaches and nausea from Carbon Monoxide poisoning. As it turned out, the Zamboni was emitting the usual amount of monoxide but barometric pressure had simply pushed the amount of monoxide down, concentrating it, and making the player sick.

Still, I thought it odd that detectors did not sound the alarm to levels of extremely dangerous elements present in a closed arena where athletes were playing. Doing some research I discovered that there is, in fact, no federal standard for acceptable amounts of monoxide for public stadiums, commercial buildings, etc. and that only three states have such standards for ice rinks.

HB 1386 instructs the Department of Health to set standards for our ice rinks to ensure safety. I did not specify what those standards were for two reasons: 1. I am no air quality expert 2. Perhaps North Dakota wants to have its own standards and not that of another state.

|

## **From STAR (Serving The American Hockey Rinks)**

### **The Issue**

Every year there are a handful of incidents at ice rinks in North America and around the world where people become sick due to elevated levels of carbon monoxide and/or nitrogen dioxide. These incidents have been commonly linked to the following factors:

- Machines powered by fossil fuels, such as ice resurfacers and ice edging equipment that have not been properly maintained by a qualified professional.
- Facility ventilation equipment that is not working properly and/or has not been maintained on a regular basis by a qualified professional.
- The absence of an ongoing indoor air quality-monitoring program at the facility.

The headlines always seem to point the finger at ice resurfacing equipment as the primary culprit of poor indoor air quality. However, ice resurfacing equipment manufacturers must meet stringent EPA emissions standards in order to sell their products within the United States. In reality, it is usually the lack of proper maintenance of the equipment after it is purchased that is the root cause of the problem.

Ice resurfacing and ice maintenance equipment are not the only potential contributors to poor indoor air quality in ice rinks. Any equipment that burns fossil fuel (gasoline, diesel, propane, natural gas) such as infrared bleacher heaters, hot water heaters and boilers, furnaces, dehumidifiers, forklifts, scissor or boom lifts, generators and idling busses outside the rink can all contribute to unacceptable levels of carbon monoxide and/or nitrogen dioxide if not used and maintained properly.

### **What are carbon monoxide and nitrogen dioxide? How do they affect me?**

Carbon monoxide is a colorless, odorless, tasteless gas, which reduces the oxygen carrying capacity of blood. It is the product of incomplete fossil fuel combustion. Common symptoms of exposure to high levels of carbon monoxide are headaches, drowsiness, rapid breathing, nausea and vomiting.

Nitrogen dioxide is a gas that can be dark brown or reddish brown in color at elevated levels, and has a pungent, acrid odor. It is an unwanted by-product of fossil fuel combustion. Common symptoms of exposure to elevated levels of nitrogen dioxide are irritation to eyes, nose, throat and respiratory tract or shortness of breath.

## **What are the maximum levels of exposure to carbon monoxide and nitrogen dioxide?**

Currently there are no federal indoor air quality regulations specific to indoor ice rinks for carbon monoxide and nitrogen dioxide exposure. However these three states: Massachusetts, Minnesota and Rhode Island have put regulations in place for indoor ice rinks within their states. Each state's regulations are similar, and are enforced by their departments of health. These regulations outline air sampling requirements, record keeping requirements, action levels and required corrective measures that must be taken by the rink operator. These state regulations can be found below.

## **What can your rink do to maintain acceptable indoor air quality?**

STAR recommends the following minimum guidelines for maintaining acceptable indoor air quality in ice rinks.

- Fossil fueled ice resurfacing and ice edger equipment emissions tested and tuned to manufacturer specifications by a qualified professional.
- Heating, Ventilation, Air Conditioning and Dehumidification equipment inspected and maintained to manufacturer specifications by a qualified professional.
- Facility ventilation equipment confirmed operational on a daily basis by staff.
- The facility have a written indoor air quality policy that outlines procedures for air sampling, record keeping, action levels and corrective actions.
- Facility staff trained how to properly use air sampling equipment and what corrective actions to take upon discovery of an air sample that exceeds carbon monoxide and nitrogen dioxide action levels.
- Action levels for the following emissions: (Minnesota Department of Health - Indoor Ice Arena Rule 4620)
  - Carbon Monoxide (CO) 20ppm
  - Nitrogen Dioxide (NO<sub>2</sub>) 0.3ppm
- Air samples taken as described, with equipment approved in the Minnesota Department of Health - Indoor Ice Arena Rule 4620 (Found in links below)

The safety of customers, employees and co-workers needs to be a top priority at your ice rink. If you have questions or need help please contact us at STAR, 719-538-1149 or [info@starrinks.com](mailto:info@starrinks.com)

# Federal Indifference Keeps Safety Standards on Ice

Lawmakers could protect millions of people who use skating rinks with simple legislation. What's stopping them?

BY ALEX BROWN

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The author drives a Zamboni ice resurfacer at the John and Dede Howard Ice Arena in St. Joseph, Mich. Propane-powered resurfacers, like the one pictured, can emit dangerous levels of carbon monoxide and nitrogen dioxide in indoor facilities if not properly ventilated. (Dave Brown)

October 2, 2013 What if the government could craft a rule that would make millions of people safer, reduce carbon emissions, and come with the support of the industry it regulates? It isn't a pipe dream--three states have had it on the books for years--but there appears to be no momentum for such legislation on the federal level.

The rule? Mandatory testing of carbon-monoxide levels at indoor ice rinks. Much like a car left running in the garage, the emissions given off by ice resurfacers--better known as Zamboni machines after the name of their most popular brand--can be harmful if not properly ventilated. The Environmental Protection Agency has issued warnings

[<http://www.epa.gov/iaq/icearenas.html>] about these carbon-monoxide and nitrogen-dioxide dangers, but only Massachusetts [<http://www.mass.gov/eohhs/docs/dph/regs/105cmr675.pdf>], Minnesota [<http://www.health.state.mn.us/divs/eh/indoorair/arenas/forms/keychangesforrule.pdf>], and Rhode Island

[http://sos.ri.gov/documents/archives/regdocs/released/pdf/DOH/DOH\\_141\\_.pdf](http://sos.ri.gov/documents/archives/regdocs/released/pdf/DOH/DOH_141_.pdf) have taken steps to keep skating rinks safe.

It's not as if the problem is a new one. In 2009, ESPN reported <http://sports.espn.go.com/espn/e60/news/story?id=4068448> that 200 people had been sickened by carbon monoxide at ice rinks in a six-month span. Tests by the network found that nearly a third of rinks using fossil fuel-powered resurfacers had hazardous levels of carbon monoxide, nitrogen dioxide, or ultrafine particles. A 2011 feature <http://www.today.com/video/today/41508607#41508607> by NBC's *Today Show* reported on one incident that saw 60 people hospitalized and found that more than 250 people had suffered from carbon-monoxide poisoning over the previous two years. Meanwhile, STAR Rinks, a nationwide industry organization, estimates there are 2,000 indoor rinks in the country.

Suzanne Condon, associate commissioner for health at the Massachusetts Department of Public Health, helped write that state's indoor ice-rink air quality law in 1997. Childhood asthma rates, she said, were the impetus for the regulation. "You used to be able to look down that row of kids on the bench [during youth hockey games], and probably a third of those kids were using inhalers," she said.

Condon isn't the only one who has seen the effect of testing laws. In Rhode Island, arena managers have been required to take daily carbon-monoxide readings since 1990, with mandated corrective actions for specific levels. That has boosted awareness of carbon-monoxide issues and helped rinks fix their problems, said Joseph Wendelken, a spokesman for the state's Department of Health. "After the law, I received no more complaints of headaches from hockey refs and figure-skating judges," he said.

The rules are even tougher in Minnesota. Earlier this year, it beefed up its air-quality standards for rinks, which have been on the books since 1973. The state now has the lowest allowed carbon-monoxide and nitrogen-dioxide levels in the country. Over the past year, the state has seen just 2 percent of ice rinks exceeding the mandated level, said Dan Tranter, supervisor of the Minnesota Department of Health's Indoor Air Unit. That number has jumped to 10 percent since the stricter rule took effect in May, but Tranter expects it to come down once rinks grow accustomed to the new standard.

Air-quality compliance has been even more universal in Massachusetts, Condon said. "We tested a variety of rinks in the mid-'90s. We did see elevated levels of carbon monoxide and nitrogen dioxide," she said. Now? "It's been at least a few years since we've even seen a level that was above the corrective action limit."

In the ESPN investigation <http://sports.espn.go.com/nhl/features/arenaAirQuality>, carbon-monoxide levels were found to be roughly 10 times higher in states that had no testing requirements. In non-testing states, 11 of the 22 rinks surveyed found carbon-monoxide levels exceeding Minnesota's best-in-the-nation standard of 20 parts per million. In the three states with testing requirements, none of 12 rinks tested exceeded nine parts per million.

And it's not as if the public-safety benefits have come at the expense of an industry, nor have they met much opposition from those who are forced to comply. "By and large our arenas ... are accepting of the rules," Tranter said. "They want to ensure a safe environment for their patrons."

Arena managers backed that up. Almost a dozen operators in Rhode Island and Massachusetts responded to a survey distributed by the North East Ice Skating Managers Association for *National Journal*. None said the testing requirements had been a financial or logistical burden, and most said the standards were an important safety measure. Many expressed hope that other states would follow suit. Another manager in New Hampshire voluntarily paid for automated testing equipment to meet the Massachusetts standard, a move he said was made to address both safety and liability concerns.

STAR Rinks tells its members to establish testing standards, even if their state doesn't mandate monitoring. "[Carbon-monoxide and nitrogen-dioxide] poisoning are a real possibility at any ice rink that uses fossil-fueled ice resurfacers," [its website says http://www.starrinks.com/page/show/286328-indoor-air-quality-ice-rinks](http://www.starrinks.com/page/show/286328-indoor-air-quality-ice-rinks). "STAR strongly recommends that all ice rink operators implement an air quality monitoring program."

So why no appetite for federal legislation? "It's hard to understand," Condon said, adding that lack of awareness has resulted in little pressure for new rules.

In 2002, EPA tightened emissions standards [http://www.epa.gov/otaq/regs/nonroad/2002/102037.pdf] for new resurfacers, but many machines predating that rule are still in operation--and even the improved models can cause problems in rinks that are not properly ventilated. EPA regulators did not respond to requests for comment; aides to environmental policymakers in the House indicated that no legislation is in the works.

There may yet be hope for federal pressure on the issue. After several days of inquiry by *NJ*, an aide to a high-ranking senator who deals with environmental issues indicated a pair of senators contacted for this story are now planning to hold a hearing to investigate the issue.

Pasco County Tax Collector Mike Fasano saw firsthand the difficulty of passing new regulations. Fasano made two attempts to pass ice-rink air quality standards while he was a Republican state senator in Florida. Both died in committee. At least one of those failures was the result of the state House failing to take up a companion measure, fueled by antiregulatory sentiment, said Fasano's former chief legislative assistant Greg Giordano. "It was a philosophical issue," Giordano said. "Leadership was saying, 'Do we want to give government even more ability to go into a private business [and regulate]?' ... I don't think anyone would have come out and said, 'Oh, I don't want children to be healthy.' "

Fasano and Giordano did claim a small victory when the troublesome local rink that had spurred the legislation switched to an electric resurfacer. That has become a trend in the industry, state regulators said, especially in testing-law states where making the switch can eliminate compliance issues. In Massachusetts and Rhode Island, three quarters of the rink managers contacted for this story reported using electric resurfacers, and most cited air quality as a reason for the purchase.

"We have seen an increase in electric machine sales in those states with required testing," said Frank Zamboni, the grandson of the ice resurfacer's inventor and the executive vice president of Zamboni Co., the Canadian sister company of the Paramount, Calif.-based manufacturer.

While electric resurfacers are 35 percent to 40 percent more expensive, he said, cheaper operating costs can offset the initial purchase price. Zamboni declined to weigh in on potential legislation or regulation, but he did emphasize the critical need for air-quality testing. "It really isn't our place to state a preference between voluntary and mandated emission testing; we simply feel that it is important that it be done on a daily basis while the ice rink is in operation," Zamboni said.

COMMENTS

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Let's legislate everything in the entire universe. Then nothing will ever go wrong.

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6



## Wis. fire chief: CO from propane-fueled ice resurfacers made 81 ill at rink

Article by: Paul Walsh

Star Tribune

December 14, 2014 - 11:42 PM

A faulty ice rink resurfacers is being blamed for putting carbon monoxide gas into the air at a hockey rink near the Wisconsin Dells and sending 81 people to area hospitals, authorities said Sunday.

Hospitals near the Poppy Waterman Ice Arena in Lake Delton received the people who were at the rink Saturday night for the Minnesota Junior Hockey League game between the Dells Ducks and the Rochester Ice Hawks.

Fire officials said patients' symptoms included dizziness, nausea, headaches, vomiting and fainting, the officials added.

One Ducks player fainted and was hospitalized Sunday in Milwaukee, where he was receiving oxygen therapy in a hyperbaric chamber and improving, said head coach Bill Zaniboni. Doctors ordered another Ducks player to stay in bed at home until Wednesday, Zaniboni said.

The carbon monoxide came from one of the rink's two propane-fueled resurfacing machines, Lake Delton Fire Chief Darren Jorgenson said.

The Olympia resurfacers "wasn't fully combusting the propane," and the ventilation system failed to offset the problem, Jorgenson said. "The employee who was operating it said he thought it was functioning normally."

The faulty machine was "tagged" out of service and will be inspected Monday, as will the other resurfacers, Jorgenson said. Both machines passed inspections just before the hockey season began this fall, Jorgenson said.

The rink is not required by state law to have a carbon monoxide detector in the building, Jorgenson said.

Despite the lack of a legal mandate, Jorgenson added, "any space that people occupy where there is a fuel-burning appliance, it's great to have as many [detectors] as possible."

Zaniboni, who spent the night at the hospital with symptoms, as did his 3-year-old son, said he favors "whatever needs to change to make it a safer environment ... health is the most important thing."

Carbon-monoxide emissions have long been a concern at hockey rinks, with suspicions often focusing on ice-resurfacing equipment. In 2009, 12 Maple Grove peewee players, grades six and seven, and five spectators fell ill from carbon monoxide poisoning at a tournament in Morris.

Two weekends ago in Ottawa, carbon-monoxide poisoning at a rink was blamed for hospitalizing 16 players.

Symptoms day before

Ice Hawks head coach Nick Fatis said Sunday the symptoms started popping up among his players Friday night during a game against the Ducks at the same rink.

"I feel like this was a very avoidable situation," Fatis said. "We feel very blessed" everyone survived what could have been a deadly situation, he added.



Poppy Waterman Ice Arena in Lake Delton, Wis.

[lakedelton.org](http://lakedelton.org), [lakedelton.org](http://lakedelton.org)

Fatis said one of his assistants woke up at 3 a.m. Saturday to take a shower "and got violently ill in the bathroom."

In the time leading up to Saturday's game, Fatis continued, "other players were complaining of headaches and not feeling [like] themselves. I thought cold or flu but didn't really pick up" on CO poisoning.

Once Saturday's game began, players were fighting the symptoms and had trouble breathing, Fatis said. Several failed to finish the game.

After the game, Fatis continued, "one of our players from last year pulled me aside and said, 'You know, I got really sick here last year.'" The player added that his father raised the prospect of carbon monoxide as the culprit.

Every player who skated Saturday fell ill, Fatis said, along with himself.

Some of them were "on the floor in the [Super 8] lobby vomiting," Fatis said. "I triaged them to get the guys out [to a hospital], and then I kind of lost it."

Zaniboni said "we started questioning things after the game" when the player now in a Milwaukee hospital "hit the ground, out cold."

Rink closed Sunday, Monday

All Ice Hawks players and staff have been released from the hospitals. Once the team bus returned Sunday to Rochester, a couple of players were to be checked out by doctors at the Mayo Clinic, Fatis added.

Readings taken Saturday night at the rink fell into the "moderate level" of excess exposure to carbon monoxide, Jorgenson said.

By the time the leak was discovered, many players and spectators had left the rink.

Law enforcement officials fanned out to various locations in Lake Delton and neighboring Wisconsin Dells to find those who had been in the rink. Those with symptoms either were taken by ambulance to hospitals or allowed to travel there on their own.

The two teams split their games Friday and Saturday, but the rink was closed Sunday, canceling a rematch.

The rink will remain closed Monday as officials continue investigating the leak.

"This is the first time that anything like this has happened out there," Jorgenson said. "They have a pretty good record of safety and code compliance."

Players in the Minnesota Junior Hockey League are primarily those who have concluded high school-age competition and are trying to move on to college teams. About a third on the Rochester roster are Minnesotans, with the rest from other states. The Ducks roster has no Minnesotans and is made up of Wisconsin natives and players from other states and overseas.

Paul Walsh • 612-673-4482

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# ND among states that don't regulate air quality at rinks

By Archie Ingersoll  
and Emily Welker  
Forum News Service  
Fargo

A piercing headache took hold of Elijah Duncan as he drove home after playing pickup hockey Sunday night at Teamsters Arena. The pain was so bad he had to look away from headlights on the road.

"I didn't think anything of it," said Duncan, 20. "I just thought it was a really bad migraine."

Monday morning, Duncan learned that he was one of dozens at the rink, including many youth hockey players, who suffered headaches and nausea from carbon monoxide poisoning.

This sort of problem arises occasionally at indoor rinks around the country. Over the weekend in central Wisconsin, more than 80 people at a minor league hockey game were sickened by unsafe levels of carbon monoxide inside the rink.

North Dakota is among the majority of states that do not have laws regulating air quality at ice rinks. A few states, including Minnesota, Massachusetts and Rhode Island, do have such regulations, according to a national

group called Serving The American Rinks.

The source of carbon monoxide is often the internal-combustion engines of ice resurfacing machines and ice edgers. What caused the dangerous levels of the potentially deadly gas at Teamsters Arena is not yet clear.

Jeff Lockhart, operations manager for the Fargo Youth Hockey Association, which owns the arena, said all of the equipment was inspected and cleared by Xcel Energy on Monday. And only slight adjustments needed to be made to the rink's Zamboni machine, he said.

Lockhart thought it was possible the lack of air movement that created heavy fog in the region Sunday could have contributed to problems with ventilating the arena.

## 'The same sickness'

Battalion Chief Lee Soeth said a Fargo fire crew found high levels of carbon monoxide at Teamsters Arena late Sunday. Firefighters were called there about 11:30 p.m. after Sanford Health reported symptoms of carbon monoxide poisoning in at least three emergency room patients who were at the arena.

Duncan, who coaches youth hockey, said he went to the hospital Monday morning and found out he had an elevated level of carbon monoxide in his system. He was treated with oxygen for an hour and released in the afternoon.

Lockhart said the carbon monoxide reading in the arena was at zero parts per million Monday. Despite the low reading, a large garage door was opened to allow air flow once every hour to avoid a repeat of Sunday's incident.

"We're going to learn from why it happened and make sure it never happens again," he said.

Lockhart spent Monday reaching out to all of the players who participated in the seven games the arena hosted Sunday.

Among those affected were Leah Staahl, her husband and their two sons, ages 7 and 10. They all had symptoms of carbon monoxide poisoning after spending a few hours at the arena, she said.

The West Fargo family watched their older son play for the West Fargo Stampede in a squirt-level game Sunday afternoon. In the first and second periods, six kids came off the ice complaining of severe headaches and nausea,

Staahl said.

"How can all these kids be getting the same sickness minutes apart?" she asked herself.

By the third period, her son's team had barely enough skaters to play, and the remaining kids were lethargic and not feeling well, she said.

Taking into account what she's heard from other teams, Staahl estimated that dozens became sick. Many of the young players stayed home from school Monday, she said.

"We as parents have a lot of questions regarding if there were operational detectors in place, what are they set at to alert staff?" she wrote in an email.

Ryan Evenson, who coaches the Stampede's peewee A team, said 13 of his 16 players became ill after their game, which was before the squirt game.

"There was no indication whatsoever that something was wrong until kids just started going down," he said.

## Air quality rules

Minnesota has had rules about air quality at indoor rinks since 1973, said Dan Tranter, supervisor of the indoor air unit at the state Department of Health. "There was a lot of problems in the late '60s,

early '70s. That prompted our Legislature to pass a law that instructed our (health) commissioner to create rules," he said.

Minnesota ice rinks are required to regularly test air quality if they're using resurfacing machines that run on propane or gas. If carbon monoxide levels are too high, rinks need to do whatever's necessary to fix the problem or else face enforcement action, Tranter said.

Along with carbon monoxide, Minnesota regulates levels of nitrogen dioxide, another byproduct of internal-combustion engines, that can trigger asthma attacks at low levels and cause pneumonia-like symptoms at higher levels, he said.

North Dakota has no enforceable levels for air quality inside ice rinks. Instead, the state takes an educational approach to the issue, said Justin Otto, indoor air quality coordinator for the state Department of Health.

Otto said the agency plans to send a memo to owners and operators of arenas in the state, reminding them of the dangers of carbon monoxide.

"We send out this memo from time to time because it is a concern, and it's

something that needs to be monitored routinely," he said.

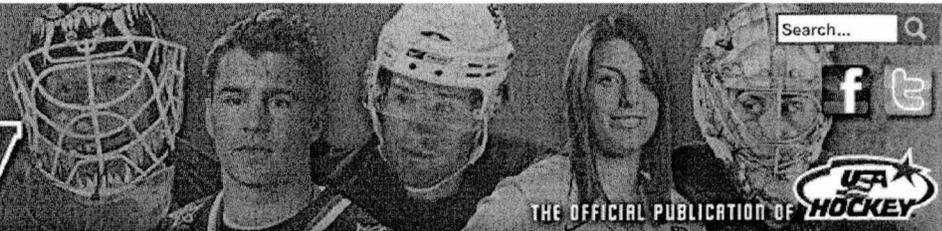
Grant Larson, director of environmental health for Fargo-Cass Public Health, said that as a courtesy his inspectors conduct twice-yearly checks of air quality at rinks in Fargo. The Teamsters Arena was last checked in June, but inspectors have not been there this winter, he said.

The Fargo Park District has carbon monoxide monitors at its three indoor skating facilities, said Clay Whittlesey, the district's director of recreation.

The monitors trigger an alarm when the carbon monoxide level gets too high and fans start to ventilate the facilities. "I don't think they've ever gone off when we've had the public in the building," said Whittlesey, who's been with the district for 25 years.

Lockhart said Teamsters Arena has two carbon monoxide monitors on the wall, as well as one worn by the Zamboni driver. He said he's looking to bring the arena in line with Minnesota's regulations.

Readers can reach reporter  
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# The Air We Breathe: Rink Air Quality

## Monitoring And Maintenance Are Essential Aspects To Air Quality Inside Ice Rinks

By: Jeff Theiler



Recent events involving youth hockey players at ice rinks have cast the national media spotlight on the air quality inside rinks around the country.

Both incidents, which involved players becoming ill due to carbon monoxide and nitrogen dioxide poisoning, are serious and pose important questions for our industry.

With that said, it's critical for everyone who steps into a rink to know that the ice rink industry has long been committed to ensuring the health and safety of its customers as well as rink employees by creating and following a set of strict guidelines.

### The Issue

On occasion, there are incidents at ice rinks in North America and around the world where people become sick due to poor indoor air quality. The discovery of poor indoor air quality, or more specifically high levels of carbon monoxide and/or nitrogen dioxide, in these ice rinks has been most commonly linked to the following factors:

Machines powered by fossil fuels, such as ice resurfacers and ice edging equipment that have not been properly maintained by a qualified professional.

Inadequate facility ventilation equipment and/or equipment that has not been maintained on a regular basis by a qualified professional.

The absence of an ongoing indoor air quality-monitoring program at the facility.

The headlines always seem to point the finger at ice resurfacing equipment as the primary culprit of poor indoor air quality. However, ice resurfacing equipment manufacturers must meet stringent EPA emissions standards in order to sell their products within the United States. In reality, it is usually the lack of proper maintenance of the equipment after it is purchased that is the root cause of the problem.



Ice resurfacing and maintenance equipment are not the only potential contributors to poor indoor air quality in ice rinks. Any equipment that burns fossil fuel (gasoline, diesel, propane, natural gas) such as infrared bleacher heaters, hot water heaters and boilers, furnaces, forklifts, scissor or boom lifts, generators and idling buses outside the rink can all contribute to unacceptable levels of carbon monoxide and/or nitrogen dioxide if not used and maintained properly.

POLL

Which big-time hockey event are you most looking forward to this season?:

- Hockey Weekend Across America
- Winter Classic
- Hockey City Classic
- Frozen Four
- Adult Pond Hockey Championship
- Anything, just drop the puck already!

Vote

## What are carbon monoxide and nitrogen dioxide? How do they affect me?

Carbon monoxide is a colorless, odorless, tasteless gas, which reduces the oxygen-carrying capacity of blood. It is the product of incomplete fossil fuel combustion. Common symptoms of exposure to high levels of carbon monoxide are headaches, drowsiness, rapid breathing, nausea and vomiting.

Nitrogen dioxide is a dark brown or reddish brown gas that has a pungent, acrid odor. It is an unwanted by-product of fossil fuel combustion. Common symptoms of exposure to high levels of nitrogen dioxide are irritation of eyes, nose, throat and respiratory tract or shortness of breath. More serious symptoms include pneumonia or bronchiolitis.

## What are the maximum levels of exposure to carbon monoxide and nitrogen dioxide?

Currently there are no federal regulations for indoor air

quality specific to indoor ice rinks for carbon monoxide and nitrogen dioxide exposure. However three states, Massachusetts, Minnesota and Rhode Island, have put regulations in place for indoor ice rinks. Each state's regulations are similar, and are enforced by their departments of health. These regulations outline air sampling requirements, record keeping requirements, air action levels and required corrective measures that must be taken by the rink operator.

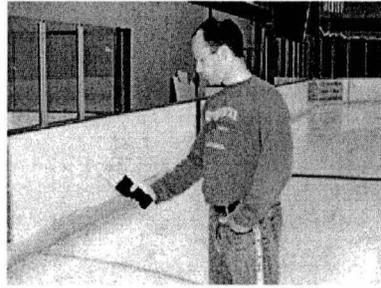
The maximum exposure levels for carbon monoxide and nitrogen dioxide per current state regulations are:

Carbon Monoxide (CO) < 30.0 ppm

Nitrogen Dioxide (NO<sub>2</sub>) < 0.5 ppm

## What can your local ice rink do to maintain acceptable indoor air quality?

Serving The American Rinks, which was founded by USA Hockey and U.S. Figure Skating in 2000 to provide education and resources for rink owners and operators throughout the country, recommends that all ice rink operators in states that do not already have indoor air quality guidelines follow the State of Massachusetts' 105 CMR 675.000, which can be found online at Mass.gov or Starrinks.com.



## In addition, STAR recommends the following:

**Fossil-fueled ice resurfacing and ice edger equipment should be emissions tested and tuned to manufacturer specifications annually by a qualified professional.**

**Heating, Ventilation & Air Conditioning equipment should be inspected and maintained quarterly for proper operation by a qualified professional.**

**All rink staff should be trained how to properly use air sampling equipment and what appropriate corrective actions to take upon discovery of an air sample that exceeds maximum carbon monoxide and nitrogen dioxide exposure limits.**

It's important to know that the majority of ice rinks in the U.S. do an outstanding job of offering a safe, clean and fun environment for kids and adults to play hockey. Unfortunately, there are exceptions and STAR is committed to doing everything possible to help eliminate those exceptions.

As an industry leader, STAR addresses the issue of indoor air quality at educational seminars it conducts throughout the year. In addition, USA Hockey has reached out to government agencies nationwide to heighten concerns surrounding indoor air quality in ice arenas.

As a player, parent, coach or official you have the right to expect a clean and safe environment every time you step into a rink.

If you have questions or concerns about the air quality in your local rink, ask your hockey association leadership to speak with the rink management about what steps the rink staff is taking to provide a safe environment.



**Issue:** 2011-03

Tags: Rink Air, maintenance

Type: Feature

#2

**Testimony  
House Bill 1386  
House Human Resources Committee  
February 2, 2015 10:30 a.m.  
North Dakota Department of Health**

Good morning Chairman Weisz and members of the committee. My name is Terry O'Clair and I am the Director of the Air Quality Division with the State Health Department. I am here to provide information regarding House Bill 1386.

House Bill 1386 calls upon the State Health Council to adopt rules that regulate the levels of carbon monoxide in indoor ice arenas in the state. If House Bill 1386 passes, the Air Quality Division would more than likely be the Division within the Department to draft such rules and establish an inspection program.

A quick Goggle search indicates there are approximately 70 ice arena facilities across the state. The Department has made preliminary efforts to contact the City of Bismarck Building Inspections Department to determine if their program currently performs any inspections regarding carbon monoxide in such facilities. As of this morning, we have not received a response and we are planning to have follow-up conversations with Bismarck and other cities throughout the state regarding ice arena air quality inspections. Without knowing what type of inspections cities are currently conducting, it is difficult to assess what the Department of Health would have to do to comply with this bill.

My initial thoughts are that the Bill 1386 may need a fiscal note to account for the purchase of carbon monoxide monitoring equipment, travel expenses and one FTE to prepare and promulgate the rules and perform inspections of the 70 sources.

Thank you for your attention. I would be happy respond to any questions.