

Chapter 4620
Minnesota Department of Health
Adopted Permanent Rules Relating to Indoor Ice Arenas and Motorsports Arenas

Indoor Ice Arenas

4620.3900	PURPOSE
4620.3910	APPLICATION
4620.3950	ACCEPTABLE AIR QUALITY
4620.4000	DEFINITIONS
4620.4100	CERTIFICATE OF APPROVAL
4620.4450	TRAINING
4620.4510	MEASUREMENT OF AIR QUALITY CONDITIONS
4620.4550	AIR QUALITY MEASURING DEVICES
4620.4600	FAILURE TO MAINTAIN AIR QUALITY
4620.4650	RECORD KEEPING
4620.4700	OTHER FUEL-BURNING EQUIPMENT
4620.4800	ENFORCEMENT
4620.4900	VARIANCE TO RULES RELATING TO INDOOR ICE ARENAS

4620.3900 PURPOSE.

The purpose of parts 4620.3900 to 4620.4800 is to protect public health by ensuring acceptable air quality in the operation and maintenance of indoor ice arenas.

4620.3910 APPLICATION.

Parts 4620.3900 to 4620.4800 apply to owners or operators of indoor ice arenas.

4620.3950 ACCEPTABLE AIR QUALITY.

The owner or operator of an indoor ice arena must maintain acceptable air quality conditions at all times in areas of the arena building that are open to the public. Such conditions are defined as: one-hour average air concentration of not more than 20 parts of carbon monoxide per one million parts of air by volume (20 ppm), and one-hour average air concentrations of not more than 0.3 parts of nitrogen dioxide per one million parts of air by volume (0.3 ppm).

4620.4000 DEFINITIONS.

Subpart 1. **Scope.** For the purposes of parts 4620.3900 to 4620.4800, the following terms shall have the meanings given them.

Subp. 1a. **Air quality measuring device.** "Air quality measuring device" means direct-read pump and colorimetric tube or electronic real-time gas detection equipment for sampling and measuring nitrogen dioxide and carbon monoxide air concentrations.

Subp. 3a. **Arena.** "Arena" means an indoor ice arena.

Subp. 3b. **Arena building.** "Arena building" means a structure with a roof and walls that houses an indoor ice arena.

Subp. 4. **Certificate.** "Certificate" means a certificate of approval issued by the commissioner under parts 4620.3900 to 4620.4800.

Subp. 5a. **Commissioner.** "Commissioner" means the commissioner of health or the commissioner's designee.

Subp. 5b. **Edging.** "Edging" means operation of an ice edger.

Subp. 7a. **Ice edger.** "Ice edger" means power equipment used to modify the perimeter of an ice sheet.

Subp. 7b. **Ice maintenance machine.** "Ice maintenance machine" means an ice resurfacer or ice edger.

Subp. 7c. **Ice resurfacer.** "Ice resurfacer" means power equipment used to modify the entire surface of the ice.

Subp. 7d. **Indoor ice arena.** "Indoor ice arena" means a single room of a permanent or temporary structure where an ice sheet is maintained having the following characteristics:

- A. the room has a roof;

- B. the room is bounded by walls, doorways, or windows, whether open or closed; and
- C. the walls, doorways, or windows cover more than 50 percent of the combined surface area of the vertical planes that make up the room's perimeter (sides).

Subp. 7e. **Operator.** "Operator" means the person designated by the owner as responsible to operate and maintain the indoor ice arena.

Subp. 7f. **Owner.** "Owner" means the person having legal title to the indoor ice arena or the owner's legally authorized representative.

Subp. 8. **Person.** "Person" means any natural individual, corporation, partnership, or other business association and includes the state and its political subdivisions.

Subp. 8a. **Responsible person.** "Responsible person" means the individual authorized by the operator to ensure acceptable air quality conditions in the arena.

Subp. 9. **Resurfacing.** "Resurfacing" means operation of an ice resurfacer.

4620.4100 CERTIFICATE OF APPROVAL.

Subpart 1. **Applicability.** No person may own or operate an indoor ice arena unless the commissioner issues the person a certificate.

Subp. 2. **Certificate application.** Applications for a certificate must be submitted on forms prescribed by the commissioner. An application must be submitted:

- A. annually, by owners or operators of all existing indoor ice arenas; and
- B. at least 30 days before owners or operators open new indoor ice arenas to the public.

Subp. 3. **Certificate issuance.** The commissioner must issue a certificate under subpart 2, if the commissioner determines that the owner or operator has complied with parts 4620.3900 to 4620.4800 and demonstrated the ability to maintain acceptable air quality conditions in the arena building.

Subp. 4. **Certificate expiration and renewal.** A certificate issued under this part expires one year from the date of issue.

- A. Owners or operators must apply for renewal on forms prescribed by the commissioner at least 30 days before a certificate expires.
- B. If a certificate expires while a renewal application is pending approval, the arena may continue to operate under the expired certificate until the commissioner issues a new certificate or denies the renewal application.

Subp. 5. **Posting of certificate.** The certificate must be prominently displayed in a location that is clearly visible to the public.

4620.4450 TRAINING.

Subpart 1. **Requirements.** The owner or operator must ensure that a trained responsible person is available in the arena building at all times that the arena is open to the public. Training must:

- A. be appropriate for the trainee's level of responsibility in operating the arena;
- B. be performed annually;
- C. include the following topics:
 - (1) acceptable air quality conditions;
 - (2) methods of maintaining acceptable air quality in the arena;
 - (3) proper operation and storage of the arena air quality measuring device;
 - (4) proper collection of air samples with the arena air quality measuring device;
 - (5) appropriate actions for correcting unacceptable air quality; and
 - (6) record-keeping requirements; and
- D. be documented.

Subp. 2. **Documentation.** Trainees must acknowledge, with their written signature, that they have received training meeting the requirements of this part. Owners or operators must maintain the written acknowledgment according to part 4620.4650.

4620.4510 MEASUREMENT OF AIR QUALITY CONDITIONS.

Subpart 1. **Measuring air quality.** Owners or operators of indoor ice arenas must measure carbon monoxide and nitrogen dioxide air concentrations in each arena when internal combustion engine-powered ice maintenance equipment is used.

Subp. 2. **Persons who can take measurements.** Measurements must be made by an individual who has received training as specified in part 4620.4450.

Subp. 3. **Measurements for ice resurfacing.** Owners or operators must measure air concentrations at least twice per week after using an internal combustion engine-powered ice resurfacer. Measurements must be taken:

- A. at board height, inside the boards, and at the centerline of the ice;
- B. 20 minutes after completing resurfacing unless the commissioner has granted the operator approval to measure under an alternative schedule;
- C. at times of maximum use of the resurfacing machine; and
- D. at least once on Saturday or Sunday of each week that the arena is open to the public.

Subp. 4. **Measurements for ice edging.**

- A. Owners or operators must measure air concentrations at least once per week after using an internal combustion engine-powered ice edger. Measurements must be taken following a time of maximum ice edger use at board height, inside the boards, and at the centerline of the ice:
 - (1) 20 minutes after completing edging if the arena building is open to the public when edging occurs; or
 - (2) before the public reoccupies the arena, if the arena is not open to the public when edging occurs.
- B. Owners or operators may measure under an alternative schedule if the commissioner has approved one.

Subp. 5. **Measurement records.** Owners or operators must keep a record of measurement findings and make them available to the commissioner upon request.

Subp. 6. **Additional measurements.** Owners or operators must make additional measurements as determined by the commissioner.

4620.4550 AIR QUALITY MEASURING DEVICES.

Subpart 1. **Device requirements.** The owner or operator must demonstrate that the device and methods used to measure air quality conditions are accurate and reliable. Air quality measuring devices must be:

- A. capable of measuring carbon monoxide air concentrations in a range from 0 to 100 parts per million (ppm) in increments of 1 ppm; or
- B. capable of measuring nitrogen dioxide air concentrations in a range from 0 to 5 parts per million (ppm) in increments of 0.1 ppm.

Subp. 2. **Maintenance.** The owner or operator must operate, store, maintain, and calibrate the devices according to the device manufacturer's specifications. The owner or operator must also keep maintenance and calibration records.

4620.4600 FAILURE TO MAINTAIN AIR QUALITY.

Subpart 1. **Corrective action necessary.** The owner or operator must take immediate corrective action when measurements of more than 20 ppm of carbon monoxide or more than 0.3 ppm of nitrogen dioxide are made in an area of the arena building that is open to the public. Corrective action must include:

- A. increasing the ventilation rate immediately; and
- B. suspending internal combustion-powered equipment use.

The owner or operator must continue corrective action until measurements show not more than 20 ppm of carbon monoxide and not more than 0.3 ppm of nitrogen dioxide in all areas of the arena building that are open to the public.

Subp. 2. **Follow-up testing.** The owner or operator must conduct and document the following air quality tests to confirm the effectiveness of the corrective action:

- A. at 20-minute intervals until measurements show not more than 20 ppm of carbon monoxide and not more than 0.3 ppm of nitrogen dioxide;

B. 20 minutes after the next five uses of ice maintenance equipment; and

C. at least once per day for the subsequent three days of arena operation.

Subp. 3. **Report.** Whenever corrective action is required under subpart 1, the owner or operator must submit a report to the commissioner within five business days that includes:

A. an explanation of why corrective action was necessary;

B. a description of the immediate corrective actions that were taken;

C. a record of all air quality tests required by subpart 2; and

D. an action plan to prevent a reoccurrence.

Subp. 4. **Arena evacuation necessary.**

A. The owner or operator must evacuate an area of the arena building whenever:

(1) measured carbon monoxide air concentrations exceed 83 ppm or measured nitrogen dioxide air concentrations exceed 2.0 ppm for more than five minutes;

(2) measured carbon monoxide air concentrations exceed 40 ppm or measured nitrogen dioxide air concentrations exceed 0.6 ppm for more than one hour after originally measuring unacceptable air quality conditions; or

(3) measured carbon monoxide air concentrations exceed 20 ppm or measured nitrogen dioxide air concentrations exceed 0.3 ppm for more than two hours after originally measuring unacceptable air quality conditions.

B. When evacuation becomes necessary, the owner or operator must:

(1) contact the local fire department as soon as possible to request assistance in evacuating the facility and assessing the hazard; and

(2) contact the Minnesota Department of Health upon completing evacuation.

C. The evacuated areas may only be reoccupied by the public after an evacuation under item A if:

(1) acceptable air quality conditions are measured;

(2) corrective measures have been taken to prevent further incidence of unacceptable air quality conditions; and

(3) acceptable air quality conditions and corrective measures are verified by the local fire department or the Minnesota Department of Health.

4620.4650 RECORD KEEPING.

The owner or operator must keep a record-keeping log to maintain all documentation required by parts 4620.3900 to 4620.4600.

A. Documents that must be maintained in the record-keeping log are:

(1) training records required by part 4620.4450;

(2) air quality measurement records required by part 4620.4510, subpart 5;

(3) air quality measuring device records required by part 4620.4550, subpart 2; and

(4) corrective action reports required by part 4620.4600, subpart 3.

B. The record-keeping log must be kept in the arena building and be available for public and commissioner review during all hours that the arena building is open to the public.

C. Required documents must be retained for at least three years.

4620.4700 OTHER FUEL-BURNING EQUIPMENT.

Subpart 1. **Notification required.** The owner or operator must notify the commissioner when using equipment other than ice maintenance machines for operating or maintaining the ice arena, if that equipment is capable of producing carbon monoxide or nitrogen dioxide and is not directly vented to the outdoors.

Subp. 2. **Notification process.** The owner or operator must notify the commissioner by:

A. providing the department with a list of such equipment that the owner or operator proposes to use in its annual certificate application; and

B. notifying the commissioner by telephone or in writing before using other fuel-burning equipment in the arena if the equipment was not included in its annual submission to the commissioner.

Subp. 3. **Air quality measurement.** The owner or operator must ensure acceptable air quality in the arena building when using other fuel-burning equipment by measuring the air quality conditions and reporting as the commissioner directs, depending upon the specific type of activity to be conducted in the building.

4620.4800 ENFORCEMENT.

Violations of the requirements of parts 4620.3900 to 4620.4700 shall constitute grounds for the commissioner to take one or more of the enforcement actions in Minnesota Statutes, sections 144.989 to 144.993, subject to the notice and appeal provisions set forth in applicable law.

4620.4900 VARIANCE TO RULES RELATING TO INDOOR ICE ARENAS.

The commissioner shall grant variances to parts 4620.3900 to 4620.4800, except part 4620.3950, only according to the procedures and criteria specified in parts 4717.7000 to 4717.7050.