

NAC 445A.66845 Use of gaseous chlorine: Chlorine room. (NRS 445A.860) In a facility of a public water system where gaseous chlorine is used for the disinfection of water:

1. The chlorinator, the [cylinders of gaseous chlorine and a scale or other device suitable for determining the amount of gaseous chlorine contained in each cylinder](#) must be kept above grade in a separate, reasonably gastight and corrosion-resistant room where:

(a) No ammonia is stored; and

(b) Any openings to the remainder of the facility are sealed.

2. The chlorine room must be provided with screened vents near the floor which terminate outdoors through a reasonably gastight duct at a point which is not less than 8 feet above the surrounding grade and where gaseous chlorine will not sink into spaces below the surface of the ground. Mechanical ventilation must be used. The exhaust system must be capable of providing not less than one air change per minute in the room.

3. The door to the chlorine room must open outward to the exterior of the building and be equipped with a push bar for quick exit. The room must be equipped with a latch that locks by key in such a manner that the key can be inserted in the lock outside of the door to the room. The room must be locked at all times except when personnel are inside.

4. A shatter-resistant window must be provided in the wall or door of the chlorine room. The window must provide a clear and unobstructed view of the inside of the room and be not less than 256 square inches in size. Adequate artificial illumination must be provided to allow the observation and maintenance of the equipment in the room.

5. Switches for the operation of the exhaust fan and the artificial illumination must be located on the outside of the chlorine room.

6. The floor area of the chlorine room must be of adequate size to house the chlorinator, cylinders, scale and any appurtenances.

7. The device for feeding chlorine must be designed in such a manner that during accidents or interruptions in the supply of water, or a break in the system, the feeder positively and automatically shuts off the supply of gaseous chlorine and vents any leaking gas outside of the chlorine room at a safe point of discharge. Feed lines must not carry any pressurized gas outside the room. The room must be equipped with a properly functioning device for detecting any leakage of gaseous chlorine which is acceptable to the health authority and which includes an audible and visual alarm and a telemetric device that

automatically dials the telephone number of a responsible person. A leakage test kit, consisting of a 56-percent solution of ammonia and a sponge swab, must also be provided and used.

8. The chlorinator must be of a solution-feed type which is designed to prevent backflow and capable of delivering chlorine at its maximum rate without releasing gaseous chlorine into the chlorine room. Pressure relief valves must discharge to the outside atmosphere in a safe area.

9. The temperature in the chlorine room must not fall below 55°F or the temperature that the manufacturer of the chlorinator indicates is necessary for the proper operation of the chlorinator, whichever is higher. A means to keep the temperature above that level must be provided. The cylinders must be protected from direct sources of heat. Appropriate measures must be taken to avoid the condensation of chlorine in feed lines and associated equipment that can result when the feeding equipment is cooler than the cylinder.

10. Two self-contained breathing apparatuses, which are designed for use in a chlorine atmosphere and of a type compatible with any applicable requirements of the fire authority and state and federal standards for occupational safety and health, must be located outside of the chlorine room in a closed, unlocked cabinet or similarly secure place. A cylinder of compressed air, for replacement of the cylinders attached to the self-contained breathing apparatuses, and a record book for recording any use of the apparatuses, must also be kept in the cabinet or similarly secure place.

11. There must be posted:

(a) Outside of the chlorine room, a description of the first-aid measures for treating victims of chlorine exposure and the telephone number of the supplier of the gaseous chlorine.

(b) On the door to the chlorine room, in a location where it is readily visible to any person approaching the door, a sign stating "CAUTION - CHLORINE GAS" and "DANGER." The telephone numbers of persons to contact in case of a leak or other emergency must be prominently displayed on or near the sign.

(Added to NAC by Bd. of Health, eff. 2-20-97)