Housekeeping/Laundry/Maintenance

4658.1410 LINEN. Nursing home staff must handle, store, process, and transport linens so as to prevent the spread of infection according to the infection control program and policies as required by part 4658.0800. These laundering policies must comply with the manufacturer's instructions for the laundering equipment and products and include a wash formula addressing the time, temperature, water hardness, bleach, and final pH.

Subp. Physical plant. The physical plant, including walls, floors, ceilings, all furnishings, systems, and equipment must be kept in a continuous state of good repair and operation with regard to the health, comfort, safety, and well-being of the residents according to a written routine maintenance and repair program.

Subp. 4. Housekeeping. A nursing home must provide housekeeping and maintenance services necessary to maintain a clean, orderly, and comfortable interior, including walls, floors, ceilings, registers, fixtures, equipment, lighting, and furnishings.

Subp. 8. Janitor's closet. The janitor's closet and all other areas used by the environmental services personnel must be kept clean.

Subp. 9. Storage of supplies. Supplies must be stored above the floor to facilitate cleaning of the storage area. Supplies must be identified. Toxic substances must be clearly identified and stored in a locked enclosure. Sterile supplies must be stored to maintain sterility and integrity in packaging. All substances, such as cleaning agents, bleaches, detergents, disinfectants, pesticides, paints, and flammable liquids, must be stored separately from all food and drugs.

Subp. 11. Insect and rodent control. Any condition on the site or in the nursing home conducive to the harborage or breeding of insects, rodents, or other vermin must be eliminated immediately. A continuous pest control program must be maintained by qualified personnel.

4658.1420 SOLID WASTE DISPOSAL.

Solid wastes, including garbage, rubbish, recyclables, and other refuse must be collected, stored, and disposed of in a manner that will not create a nuisance or fire hazard, nor provide a breeding place for insects or rodents. Accumulation of combustible material or waste in unassigned areas is prohibited.

58.5205 LAUNDRY; EXISTING CONSTRUCTION.

A laundry, if provided in the nursing home, must be sized and equipped to handle the laundering of all linen and personal clothing to be processed in the nursing home.

4658.5210 SOILED LINEN COLLECTION ROOM; EXISTING CONSTRUCTION.
A separate, enclosed soiled linen room must be provided for the collection, storage, and sorting of soiled linen to be processed in the laundry processing room or by an outside laundry service.

**4658.5215 LAUNDRY EQUIPMENT; EXISTING CONSTRUCTION.**

Laundry equipment must be of commercial type and must be of sufficient size and quantity for the size of the facility. The washer installation must be constructed of materials capable of meeting the operating requirements in part 4658.1410. Any new or replacement washer must be capable of measuring and displaying internal water temperatures.

**4658.5220 CLEAN LINEN STORAGE; EXISTING CONSTRUCTION.**

Rooms, closets, or enclosed carts must be provided for the storage of clean linen.

STAT AUTH: MS s 144A.04; 144A.08
HIST: 21 SR 196
*Current as of 01/19/05*

Minnesota Rules, Table of Chapters
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**4658.5225 LAUNDRY FOR PERSONAL CLOTHING; EXISTING CONSTRUCTION.**

Provision must be made for the washing of personal clothing either within or outside the facility. Residential-grade equipment may be used for the washing of personal clothing.

STAT AUTH: MS s 144A.04; 144A.08
HIST: 21 SR 196
*Current as of 01/19/05*

Minnesota Rules, Table of Chapters
Table of contents for Chapter 4658

**4658.5230 REFUSE; EXISTING CONSTRUCTION.**

Subpart 1. **Refuse area.** An outside, fenced area or a separate room must be provided for holding trash and garbage prior to disposal. It must be located conveniently to the service entrance and be sized to accommodate the refuse volume and the chosen type of disposal system.

Subp. 2. **Incinerator.** An incinerator, if provided, must be in a separate room, or in a designated area within the boiler or heater room, or outdoors. An incinerator, if provided, must comply with parts 7011.1201 to 7011.1285.

New Construction: Housekeeping

**4658.4170 STORAGE; NEW CONSTRUCTION.**

Subpart 1. **Equipment and supplies.**

Subp. 2. **Housekeeping supplies.** An area for the storage of housekeeping supplies and equipment must be provided in each janitor's closet.
4658.4175 JANITOR’S CLOSET; NEW CONSTRUCTION.

A janitor's closet must be provided for each resident floor or nursing area.

4658.4320 WASHING OF GARBAGE CANS; NEW CONSTRUCTION.

An area, separated from the dietary area, equipped with a floor drain, must be provided for the washing of garbage cans.

4658.4325 LAUNDRY, SIZE AND LOCATION; NEW CONSTRUCTION.

Subpart 1. Laundry. The laundry, if provided in the facility, must be sized and equipped to handle the laundering of all linen and personal clothing to be processed in the facility.

Subp. 2. Entrance. The entrance to a soiled linen collection room or to a laundry processing room must be located away from resident living areas and the entrance to the kitchen. Door widths to laundry areas must allow for movement of equipment and linen carts.

4658.4330 SOILED LINEN COLLECTION ROOM; NEW CONSTRUCTION.

Subpart 1. Soiled linen collection room. A separate, enclosed soiled linen collection room must be provided for the collection, storage, and sorting of soiled linen to be processed in the laundry processing room or by an outside laundry service.

Subp. 2. Location. The soiled linen collection room must be located at the soiled side of the laundry processing room. A soiled linen collection room for facilities with outside laundry service must be located near the service entrance.

4658.4335 LAUNDRY PROCESSING ROOM; NEW CONSTRUCTION.

The laundry processing room must be arranged and equipped to allow for the orderly, progressive flow of work from the soiled area to the clean area. The layout of the processing area must minimize linen transportation and avoid cross-traffic between clean and soiled operations. Laundry operations must be physically separated by a floor area. The processing room must provide space for the storage of supplies and equipment. Space for storage of laundry carts must be provided within the laundry area. Handwashing facilities must be available for the area. A two-compartment laundry tub must be provided and must be of a material with a nonabsorbent, smooth, permanent finish. A laundry tub may be provided with fittings for the required handwashing facilities.

4658.4340 LAUNDRY EQUIPMENT; NEW CONSTRUCTION.

The laundry equipment must be of commercial type and must be of sufficient size and quantity for the size of the facility. The washer installation must be constructed of materials capable of meeting the operating requirements in part 4658.1410. The washer must be capable of measuring and displaying internal water temperatures.

4658.4345 CLEAN LINEN STORAGE; NEW CONSTRUCTION.
Rooms, closets, or enclosed carts must be provided for the storage of clean linen.

**4658.4350 LAUNDRY FOR PERSONAL CLOTHING; NEW CONSTRUCTION.**
Provision must be made for the washing of personal clothing either within or outside the facility. Residential-grade equipment may be used for the washing of personal clothing.

**4658.4355 REFUSE; NEW CONSTRUCTION.**
Subpart 1. **Refuse area.** An outside, fenced area or a separate room must be provided for holding trash and garbage prior to disposal. It must be located convenient to the service entrance and be sized to accommodate the refuse volume and the chosen type of disposal system.

Subp. 2. **Incinerator.** An incinerator, if provided, must be in a separate room, or in a designated area within the boiler or heater room, or outdoors. An incinerator, if provided, must comply with parts 7011.1201 to 7011.1285.

**4658.4440 LINEN AND TRASH CHUTES; NEW CONSTRUCTION.**
The minimum diameter of a gravity-type chute must be two feet. The ceiling space between shaft walls and the discharge end of the chute must be sealed to prevent odors from leaking into the enclosing shaft space.

**4658.4540 LAUNDRY AREA; NEW CONSTRUCTION.**
Air in the laundry must be vented away from the finishing and ironing area and toward the extracting and washing area. The general air movement must be from the clean area to the soiled area, and must be of sufficient volume to remove steam, odors, and excessive heat. Dryers must be provided with a lint collector. Horizontal exhaust ducts must exhaust to the outside. The ducts must be provided with access panels for cleaning.

The physical plant of the secured unit must include, at a minimum, resident bedrooms, a central bathing area, dayroom, dining room, nurses’ station, clean utility room, and soiled utility room. The dining room and dayroom spaces in the secured unit must comply with part 4658.4200.

**Staff Area**

**4658.5235 FACILITIES FOR PERSONNEL; EXISTING CONSTRUCTION.**
Locker and toilet facilities must be provided for personnel.

**Corridors, Floors, and Signage**

**4658.5015 CORRIDOR HANDRAILS; EXISTING CONSTRUCTION.**
Securely anchored, durable handrails must be provided on both sides of corridors used by residents. If a length of corridor space between doorways is 60 inches or less, a handrail is not necessary for that portion of the corridor.

**Lighting, Noise, Temperature (HVAC), and Odors**
Subp. 6. **Heating, air conditioning, and ventilation.** A nursing home must operate and maintain the mechanical systems to provide comfortable and safe temperatures, air changes, and humidity levels. Temperatures in all resident areas must be maintained according to items A to C:

A. For construction of a new physical plant, a nursing home must maintain a temperature range of 71 degrees Fahrenheit to 81 degrees Fahrenheit at all times.

B. For existing facilities, a nursing home must maintain a minimum temperature of 71 degrees Fahrenheit during the heating season.

C. Variations of the temperatures required by items A and B are allowed if the variations are based on documented resident preferences.

Subp. 7. **Hot water temperature.** Hot water supplied to sinks and bathing fixtures must be maintained within a temperature range of 105 degrees Fahrenheit to 115 degrees Fahrenheit at the fixtures.

Subp. 10. **Boiler water additives.** Precautions must be taken to ensure that the type and concentration of boiler water additives is not harmful if steam is used for humidification or comes into direct contact with food.

**4658.1425 OZONE GENERATORS.**

Ozone generators are prohibited.

**4658.4520 VENTILATION PRESSURE RELATIONSHIPS AND VENTILATION FOR CERTAIN AREAS IN NURSING HOMES; EXISTING AND NEW CONSTRUCTION.**

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Symbols:

Air Pressure Relationships:

+ = Positive;

- = Negative;

0 = Neutral

Air Changes, Supply, Exhaust:

- = Optional

1Areas with equal or positive pressure relationships to adjacent areas must be provided with tempered make-up air.

**4658.5400 HEATING SYSTEM; EXISTING CONSTRUCTION.**

The heating system must be capable of maintaining a minimum temperature of 71 degrees Fahrenheit in all resident areas during the heating season.

**4658.5405 VENTILATION REQUIREMENTS; EXISTING CONSTRUCTION.**
Existing facilities must have mechanical exhaust ventilation in the kitchen, laundry, soiled linen collection room, soiled utility rooms, and toilet areas, except if the toilet area is private or semiprivate, and is provided with window ventilation. Ventilation must be provided according to part 4658.4520.

4658.5410 MECHANICAL ROOMS; EXISTING CONSTRUCTION.

Mechanical rooms below grade, located in buildings constructed after 1972, with equipment using liquefied petroleum gas, must have continuous mechanical ventilation providing a pressure which is equal to or greater than atmospheric.

4658.5415 FILTERS; EXISTING CONSTRUCTION.

All air supplied to the nursing home must be free from harmful particulate matter, any type of combustion products or contaminates, obnoxious odors, or exhausted air from the building or adjoining property.

4658.5500 DISTRIBUTION PANEL BOARDS; EXISTING CONSTRUCTION.

All circuits in light and power panels must be identified with a typewritten index. Doors on electrical panel boards accessible to residents must be equipped with a lock.

4658.5505 INTERIOR LIGHTING; EXISTING CONSTRUCTION.

A source of interior lighting must be provided in every room in the nursing home. Each resident bedroom must be provided with a reading light for each occupant. Lighting levels in all areas of the nursing home must be suitable to tasks the resident chooses to perform or the nursing home staff must perform. A nursing home may install rheostats to provide varying levels of illumination in resident areas.

4658.5510 FIRE ALARM SYSTEMS; EXISTING CONSTRUCTION.

Fire alarm systems and sprinkler systems must be provided according to chapter 1305.

4658.5520 EMERGENCY ELECTRIC SERVICE; EXISTING CONSTRUCTION.

To provide electricity during an interruption of the normal electrical power supply that affects medical care, or safety of the occupants, an emergency source of electrical power must be provided and connected to certain circuits for lighting and the nurse call system. The emergency system must provide lighting for the nurses’ station, telephone switchboard, resident corridors, exits, the boiler or heating system room, and, if provided, the emergency generator room. The emergency electrical service must assure functioning of the fire detection, alarm, and suppression systems, and the life support systems. Emergency electrical service must be provided by one of the following methods:

A. a battery-operated system with automatic controls and recharging if effective for four or more hours; or

B. an on-site emergency generator. The emergency generator, if provided, must be operated and tested according to the manufacturer's instructions. It is recommended that the emergency generator system include all items necessary for the functioning of the heating system. An automatic transfer switch is recommended.
Amenities

4658.5245 BARBER AND BEAUTY SHOP SERVICES ROOM; EXISTING CONSTRUCTION.

In buildings constructed after 1972, a room must be provided and equipped for barber and beauty shop services.

Outdoor Area

Subp. 3. Grounds. The grounds must be maintained with regard to the health, comfort, safety, and well-being of the residents. Driveways, walks, outside steps, and ramps must be maintained in good condition for access and safe use at all times.

4658.5230 REFUSE; EXISTING CONSTRUCTION.

Subpart 1. Refuse area. An outside, fenced area or a separate room must be provided for holding trash and garbage prior to disposal. It must be located conveniently to the service entrance and be sized to accommodate the refuse volume and the chosen type of disposal system.

New Construction: Facility-Wide

4658.4020 FINAL MECHANICAL AND ELECTRICAL PLANS; NEW CONSTRUCTION.

Final mechanical and electrical plans and specifications must address the complete layout and type of all installations, systems, and equipment to be provided according to this chapter. Heating plans must include heating elements, piping, thermostatic controls, pumps, tanks, heat exchangers, boilers, breeching, and accessories. Ventilation plans must include room air quantities, ducts, fire and smoke dampers, exhaust fans, humidifiers, and air handling units. Plumbing plans must include a fixtures and equipment fixture schedule; water supply and circulating piping, pumps, tanks, riser diagrams, and building drains; the size, location, and elevation of water and sewer services; and the building fire protection systems. Electrical plans must include fixtures and equipment, receptacles, switches, power outlets, circuits, power and light panels, transformers, and service feeders. Plans must show location of nurse call signals, telephones, fire alarm stations and detectors, and emergency lighting.

4658.4120 HANDRAILS AND CORRIDORS; NEW CONSTRUCTION.

Subpart 1. Handrails. Securely anchored, durable handrails must be provided on both sides of corridors used by residents. If a length of corridor space between doorways is 60 inches or less, a handrail is not necessary for that portion of the corridor. The handrails must be mounted at a height of 32 to 34 inches to the top of the handrail. The handrail must be a round or oval section, 1-1/2 to two inches in diameter, and the clear distance between the handrail and wall must be 1-1/2 inches. The handrail must be designed to provide the means for a full hand grip around the handrail. Wall bracket supports must be provided at least six feet on center, and the mounted brackets must be capable of supporting a load of not less than 250 pounds. The following two diagrams illustrate two acceptable handrails.

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Subp. 2. **Corridor width.** The unobstructed width of all corridors in resident areas must be at least eight feet. All exits must comply with the Minnesota State Building Code.

### 4658.4160 DRINKING FOUNTAINS; NEW CONSTRUCTION.

Refrigerated drinking fountains must be provided in resident areas, the recreational or activities area, and in or near the dining area.

### 4658.4170 STORAGE; NEW CONSTRUCTION.

Subp. 3. **Yard maintenance equipment and supplies.**

Separate enclosed storage space for the storage of yard maintenance equipment and supplies must be provided outside the nursing home.

### 4658.4355 REFUSE; NEW CONSTRUCTION.

Subpart 1. **Refuse area.** An outside, fenced area or a separate room must be provided for holding trash and garbage prior to disposal. It must be located convenient to the service entrance and be sized to accommodate the refuse volume and the chosen type of disposal system.

Subp. 2. **Incinerator.** An incinerator, if provided, must be in a separate room, or in a designated area within the boiler or heater room, or outdoors. An incinerator, if provided, must comply with parts 7011.1201 to 7011.1285.

### 4658.4360 COVERED ENTRANCE AREA; NEW CONSTRUCTION.

At least one covered entrance area must be provided to protect residents from weather. The covered entrance must extend from the curb line to the building.

### 4658.4375 BARBER AND BEAUTY SHOP SERVICES; NEW CONSTRUCTION.

A room must be provided and equipped for barber and beauty shop services.

### 4658.4400 AREA HEAT PROTECTION; NEW CONSTRUCTION.

Floors and walls for resident living areas which are overheated due to adjoining heat sources must be insulated or otherwise protected to prevent the surface from exceeding a temperature of 85 degrees Fahrenheit.

### 4658.4405 DOOR HANDLES; NEW CONSTRUCTION.

Lever-type door handles must be provided on all hinged doors to resident areas.

### 4658.4410 DUMBWAITERS AND CONVEYORS; NEW CONSTRUCTION.

Enclosed dumbwaiter pits and conveyor spaces must be provided with access for cleaning. Operation of dumbwaiters must comply with parts 5205.0400 to 5205.0490.

### 4658.4415 ELEVATORS; NEW CONSTRUCTION.

Subpart 1. **Elevators.** Shaft enclosures and elevator installations must be provided in accordance with part
4658.3500, subpart 5. Elevators must be provided in all facilities where residents occupy or use more than the entrance or first floor level.

Subp. 2. **Elevator cab size.** At least one elevator must have an inside cab dimension of at least five feet wide and seven feet deep. The car doors must have a clear opening of at

**4658.4420 EXTERIOR MECHANICAL SHAFTS; NEW CONSTRUCTION.**

Exterior shafts serving equipment for resident areas must be constructed to prevent accumulation of dirt, leaves, or snow. Least three feet, eight inches.

**4658.4425 FLOOR JOINTS; NEW CONSTRUCTION.**

Thresholds and expansion joint covers must be flush with the floor, except at exterior doors. Adjacent dissimilar floor materials must be flush with each other to provide an unbroken surface.

**4658.4430 NONSKID SURFACES; NEW CONSTRUCTION.**

Stairways, ramps, bathtubs, and showers must be provided with nonslip surfaces.

**4658.4435 GLASS PROTECTION; NEW CONSTRUCTION.**

Any full height window or glass partition of clear glass which has the sill placed at or up to 18 inches above floor level must be constructed of safety glass and must be provided with a railing or some other structural safety barrier at a height of at least 30 inches above the floor. Glass doors must be constructed of safety glass and must be provided with a push bar or with decals or markings.

**4658.4445 OVERHEAD PIPING; NEW CONSTRUCTION.**

Overhead piping must not be exposed in dietary areas, clean storage, and clean linen areas. Waste lines over food preparation areas, food storage areas, clean storage areas, and electrical panels are prohibited. Plumbing waste lines and vents must not be located within ventilation plenums.

**4658.4450 PROTECTION RAILINGS; NEW CONSTRUCTION.**

Protection railings, 42 inches high, must be provided for top landings of stairs, window wells, and open air shafts in areas accessible to residents.

**4658.4455 CEILING HEIGHTS; NEW CONSTRUCTION.**

Minimum ceiling heights must be provided as follows:

A. Boiler room ceilings must be at least five feet higher than the top of the boiler unit and at least two feet, six inches above the main boiler head and connecting piping with a minimum total height of nine feet.

B. Ceilings in corridors, storage rooms, resident toilet rooms, and other minor rooms must not be less than seven feet, six inches.

C. Ceilings in all other rooms must not be less than eight feet.
4658.4460 CEILINGS, WALLS, AND FLOORS; NEW CONSTRUCTION.

Ceilings, walls, and floors must be of a type or finish to permit good maintenance including frequent washing, cleaning, or painting. Walls in areas subject to local wetting must be provided with a hard, nonabsorbent surface. Floors in areas subject to local wetting must be finished with a smooth, hard, nonslip, nonabsorbent surface. In dietary areas, floor surfaces must be grease resistant. Carpeting in resident areas must be of high density, low-pile construction which is cleanable and facilitates wheeled traffic.

4658.4500 PLUMBING SYSTEMS; NEW CONSTRUCTION.

Subpart 1. **Installation.** All plumbing systems must be installed and tested according to this chapter and chapter 4715, the Minnesota Plumbing Code.

Subp. 2. **Area drainage.** Roofs, basements, tunnels, pits, shafts, areaways, courts, yards, and drives must be properly drained to eliminate intrusion of rain water or groundwater into the building. Floor drains in exterior areaways and similar installations must be provided with a running trap located inside the building to prevent freeze-up in the winter.

Subp. 3. **Pipe insulation.** Sufficient insulation must be provided for all water and steam piping to assure proper functioning of the systems, provide safety against burns, and to prevent undesirable condensation or heat transfer in areas for residents.

Subp. 4. **Hot water supply.** Circulating hot water must be provided in all hot water mains and in risers more than three stories high to assure hot water at the fixtures. The domestic hot water heating equipment must be installed, operated, and maintained according to chapter 4715, the Minnesota Plumbing Code. The domestic hot water heating equipment must have sufficient capacity and recovery to supply water at minimum temperatures at the point of use as follows:

A. resident bedrooms and service areas, 105 degrees Fahrenheit, with a maximum temperature at the point of use of 115 degrees Fahrenheit;

B. mechanical dishwashing, 180 degrees Fahrenheit;

C. washers in the laundry, 160 degrees Fahrenheit; and

D. mechanical sanitizing of nursing utensils, 180 degrees Fahrenheit. If a thermostatically controlled mixing valve is used, it must be of the "fail-safe" type which prevents flow of hot water in case the cold water supply fails. Heaters must be insulated and provided with a thermometer.

Subp. 5. **Dishwashing machine.** The dishwashing machine must be of a commercial type equal to the standards established by NSF International Standard No. 3, and must be of a size that can accommodate food trays. The water supply line at the machine must be provided with a pressure-reducing valve, pressure gauge, and vacuum breaker. The rinse water flow pressure must be maintained between 15 and 25 pounds per square inch at the machine by the use of a pressure reducing valve. A pressure gauge must be installed immediately after the reducing valve. A recirculation system and pump must be provided if the final rinse water heater is located more than five feet from the dishwasher. The drain must be an indirect waste connection to a trapped floor drain, or it must be a trapped connection to a branch with a floor drain without a backwater valve in the horizontal branch.
Subp. 6. **Floor drains.** Floor drains must not be installed in areas for food storage. Floor drains must not be directly connected to ventilation equipment or air supply plenums.

**4658.4505 PLUMBING; NEW CONSTRUCTION.**

Subpart 1. **Institutional fittings.** Institutional fittings must include a mixing faucet, gooseneck spout or other approved spout, wrist-action controls, and an open grid strainer on the waste in the sinks. The spout must provide a minimum vertical distance of five inches from its discharge point to the rim of the fixture, and a minimum horizontal bowl clearance of seven inches between the discharge point and the inside face of the rim. The blades on wrist-action controls must not exceed 4-1/2 inches in length, except that handles on clinical sinks must not be less than six inches long.

Subp. 2. **Flushing rim service sinks or clinical sinks.**

Flushing rim service sinks or clinical sinks must have an integral trap in which the upper portion of a visible trap seal provides a water surface. A bedpan cleaning device must be included at the clinical sink in soiled utility rooms. If a spray nozzle is included, there must be a way to control the water flow and pressure from the nozzle to minimize aerosolization.

Subp. 3. **Sterilizer vent systems.** All sterilizers requiring vapor vents must be connected with a vapor venting system extending up through the roof independent of the plumbing fixture vent system. The vertical riser pipe must be provided with a drip line which discharges into the drainage system through an air gap or open waste fixture. The connection between the fixture and the vertical vent riser pipe must be made by means of a horizontal offset. Vent material must be erosion and corrosion resistant.

**4658.4510 HEATING AND COOLING; NEW CONSTRUCTION.**

Subpart 1. **Design and installation.** Heating and cooling systems must be capable of maintaining a temperature of 71 degrees Fahrenheit to 81 degrees Fahrenheit in all resident areas. Areas must be zoned according to use and exposure, and must be provided with thermostatic temperature controls. The humidification system must be capable of maintaining a space humidity between 25 percent relative humidity and 50 percent relative humidity.

Subp. 2. **Isolation of major components.** A means of isolating major sections or components in the heating and cooling systems must be provided. Supply and return mains, and risers of space heating and cooling systems must be valved to isolate the various sections of each system. Each piece of equipment must be valved at the supply and return ends. Any pump on which the heating and cooling systems are dependent should be installed in duplicate for standby service in a nursing home.

Subp. 3. **Controls and gauges.** All valves and controls must be placed for convenient access and use, and thermometers and gauges must be mounted for easy observation.

Subp. 4. **Heating and cooling elements.** Heating and cooling elements must be located so as not to interfere with beds in residents’ rooms. Tubing and casing of gravity-type heating and cooling convectors must be mounted at least four inches above the floor and be provided with removable sturdy covers in order to facilitate cleaning.
Subp. 5. **Forced flow room units.** Cabinets for forced flow heating or cooling units must be sturdy and must be mounted either continuously along the floor with a tight fit or at least four inches above the floor. Outside air must be filtered. The interior air grill for recirculation must be located not less than four inches above the floor, on floor mounted units. Fans or blowers must be of a quiet operating type, and the fan or blower housing must not be directly connected to the metal of the unit cabinet. Recirculated air must be passed through the filter. The filter must be replaceable from within the room.

**4658.4515 VENTILATION REQUIREMENTS; NEW CONSTRUCTION.**

Mechanical supply and exhaust ventilation must be provided for all areas according to part 4658.4520. The systems must be designed and balanced to provide the pressure relationships described in part 4658.4520. Areas not covered in part 4658.4520 must be ventilated according to the Minnesota State Building Code. Areas requiring an equal or positive pressure relationship to adjacent areas according to part 4658.4520 must be provided with tempered makeup air. All air-supply and air-exhaust systems must be mechanically operated. Required exhaust ventilation must not be activated by a light switch. All fans serving exhaust systems must be located at the discharge end of the system. The ventilation rates shown in part 4658.4520 are minimum acceptable rates, and do not preclude the use of higher ventilation rates if the rates do not result in undesirable velocities in resident areas.

**4658.4520 VENTILATION PRESSURE RELATIONSHIPS AND VENTILATION FOR CERTAIN AREAS IN NURSING HOMES; EXISTING AND NEW CONSTRUCTION.**

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**Symbols:**

Air Pressure Relationships:
+ = Positive;
- = Negative;
0 = Neutral

Air Changes, Supply, Exhaust:
- = Optional

1Areas with equal or positive pressure relationships to adjacent areas must be provided with tempered make-up air.

**4658.4525 FRESH AIR INTAKES; NEW CONSTRUCTION.**

Fresh air intakes for ventilation systems must be located at least 25 feet away from a ventilation exhaust, combustion exhaust, or driveway or parking area. The bottom of fresh air intakes serving central air systems must be located as high as possible, but at least four feet above grade, or, if installed through the roof, at least two feet above roof level. Air intakes for individual room units must be at least one foot, six inches above outside grade. Any exhaust system or waste chute vent must terminate at least 25 feet away from windows that can be opened.
4658.4530 HEIGHT OF REGISTERS; NEW CONSTRUCTION.

Wall openings for air supply or return must be located at least four inches above the floor.

4658.4545 MECHANICAL ROOMS; NEW CONSTRUCTION.

Mechanical rooms with equipment using liquefied petroleum gas (LPG) or flammable liquid fuels producing vapors heavier than air must be provided with continuous mechanical outdoor air ventilation that provide a pressure which is equal to or greater than atmospheric, to remove accumulations of gas or vapor at the floor level. A relief or exhaust vent must be located within 12 inches below the ceiling, and a relief or exhaust vent must be located within 12 inches above the floor.

4658.4550 FILTERS; NEW CONSTRUCTION.

Subpart 1. Air supply. All air supplied to the nursing home must be free from harmful particulate matter, any type of combustion products or contaminates, obnoxious odors, or exhausted air from the building or adjoining property.

Subp. 2. Filters. All outside air introduced into living and service areas of a nursing home must be filtered. Return air to central ventilation systems must be filtered. All central ventilation or air conditioning systems must be equipped with a minimum of one filter bed. The filter bed must be located upstream of the air conditioning equipment, unless a prefilter is employed. If a prefilter is employed, the prefilter must be upstream of the equipment and the main filter may be located further downstream. Filter frames must be durable and proportioned to provide an airtight fit with the enclosing ductwork.

Subp. 3. Filter efficiencies. Filters installed in all central ventilation or air conditioning systems must have a minimum efficiency of 25 percent. All filter efficiencies must be average atmospheric dust spot efficiencies tested according to the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE) Standard No. 52.1-1992.

Subp. 4. Autoclave room. If there is a large autoclave in the nursing home, it must be located in a separate room provided with supply and exhaust ventilation. If an autoclave is built into a separate equipment room, the equipment room must be provided with exhaust ventilation.

4658.4600 DISTRIBUTION PANEL BOARDS; NEW CONSTRUCTION.

Subpart 1. Circuit index. All circuits in light and power panels must be identified with a typewritten index. Doors on electrical panel boards accessible to residents must be equipped with a lock.

Subp. 2. Panel boards. Lighting and appliance panel boards must be provided for the circuits on each floor, except for emergency system circuits.

4658.4605 CORRIDOR RECEPTACLES; NEW CONSTRUCTION.

Single receptacles on a separate circuit for equipment such as floor cleaning machines must be installed approximately 50 feet apart in all corridors and within 25 feet of ends of corridors.

4658.4610 SWITCHES AND RECEPTACLES; NEW CONSTRUCTION.
Switches must be placed between 42 inches and 48 inches above the floor. Convenience outlets for electrical appliances must be located to avoid danger in wet areas.

4658.4615 INTERIOR LIGHTING; NEW CONSTRUCTION.

A source of lighting must be provided in every room in the nursing home. Lighting levels in all areas of the nursing home must be adequate and comfortable. "Adequate lighting" means levels of illumination suitable to tasks the resident chooses to perform or the nursing home staff must perform. The installation of rheostats to provide varying levels of illumination in resident areas deemed appropriate by the nursing home is acceptable. "Comfortable lighting" means lighting that minimizes glare and provides maximum resident control, where feasible, of the intensity, location, and direction of illuminations so that visually impaired residents can maintain or enhance independent functioning. The design of the lighting system must:

A. minimize direct, reflected, and contrast glare;

B. provide consistent and even illumination of wall surfaces and floors;

C. be residential in appearance;

D. incorporate lamp colors that do not distort the true color of people, objects, or architectural elements; and

E. be energy efficient. Where feasible, indirect lighting by fluorescent lamps concealed by architectural molding or wall sconces is preferred. Electronic ballasts must be used for all fluorescent light fixtures. Full spectrum fluorescent and halogen lamps must not be used for task lighting. The lighting system must use natural light to the fullest extent possible in conjunction with artificial lighting. Illumination levels at transitions between outside daylight and interior light levels at entry ways must be equalized.

4658.4620 FIRE ALARM SYSTEMS; NEW CONSTRUCTION.

Fire alarm systems and sprinkler systems must be provided in accordance with chapter 1305.

4658.4640 EMERGENCY ELECTRIC SERVICE; NEW CONSTRUCTION.

To provide electricity during an interruption of the normal electrical power supply that affects medical care, or safety of the occupants, an emergency source of electrical power must be provided and connected to certain circuits for lighting and the nurse call system. The emergency system must provide lighting for the nurses' station, telephone switchboard, resident corridors, exits, the boiler or heating system room, and, if provided, the emergency generator room. The emergency electrical service must assure functioning of the fire detection, alarm, and suppression systems, and the life support systems. Emergency electrical service must be provided by one of the following methods:

A. a battery-operated system with automatic controls and recharging if effective for four or more hours; or

B. an on-site emergency generator. The emergency generator, if provided, must be operated and tested in accordance with the manufacturer's instructions. It is recommended that the emergency generator system include all items necessary for the functioning of the heating system. An automatic transfer switch is recommended.