It is felt by the Building Codes Division that the proposed rules will not have an impact on small business as defined in *Minnesota Statutes*, Section 14.115, division 1, and pursuant to *Minnesota Statutes*, Section 14.115 subdivision 2, methods were considered to reduce the potential impact of the proposed rules on small business.

Copies of the proposed rules are now available and at least one free copy may be obtained by writing to:

Margaret White
Building Codes and Standards Division
408 Metro Square Building
7th and Robert Streets
St. Paul, Minnesota 55101

Additional copies will be available at the hearing. If you have any questions on the content of the rule you may contact Margaret White, Elroy Berdahl, or Alvin Kleinbeck at (612) 296-4639.

NOTICE: Any person may request notification of the date on which the Administrative Law Judge's report will be available, after which date the agency may not take any final action on the rules for a period of five working days. If you desire to be notified, you may so indicate at the hearing. After the hearing, you may request notification by sending a written request to the Administrative Law Judge. Any person may request notification of the date on which the rules were adopted and filed with the secretary of state. The notice must be mailed on the same day the rules are filed. If you want to be so notified you may so indicate at the hearing or send a request in writing to the agency at any time prior to the filing of the rules with the secretary of state.

NOTICE IS HEREBY GIVEN that a Statement of Need and Reasonableness is now available for review at the agency and at the Office of Administrative Hearings. The Statement of Need and Reasonableness includes a summary of all the evidence and argument which the agency anticipates presenting at the hearing justifying both the need for and reasonableness of the proposed rules. Copies of the Statement of Need and Reasonableness may be reviewed at the agency or the Office of Administrative Hearings and may be obtained from the Office of Administrative Hearings at the cost of reproduction.

Minnesota Statutes, Chapter 10A requires each lobbyist to register with the State Ethical Practices Board within five days after he or she commences lobbying. A lobbyist is defined in *Minnesota Statutes*, section 10A.01, subdivision 11 as any individual:

(a) engaged for pay or other consideration, or authorized by another individual or association to spend money, who spends more than five hours in any month or more than $250.00, not including travel expenses and membership dues, in any year, for the purpose of attempting to influence legislative or administrative action by communication or urging others to communicate with public officials;

(b) who spends more than $250.00, not including his own traveling expenses and membership dues, in any year, for the purpose of attempting to influence legislative or administrative action by communicating or urging others to communicate with public officials.

The statute provides certain exceptions. Questions should be directed to the Ethical Practices Board, 625 North Robert Street, St. Paul, Minnesota 55101, telephone (612) 296-5148.

Dated: 14 December 1989

Sandra J. Hale
Commissioner of Administration

Statement of Need and Reasonableness

NOTE: All of the amendments covered by this listing of statements of need and reasonableness have been reviewed by the State Advisory Council on Plumbing Code and Examinations, and the Council has unanimously recommended that all of these amendments be adopted.

4715.0100 DEFINITIONS.

A definition is added for the term "readily accessible" to clarify the intent, since the term is being used in the amendment of *Minnesota Rules*, p. 4715.2120. In general, it would require access without removing access panels, ceiling tiles, etc., but would allow the device to be behind a door if it is not normally locked. The definition is essentially a combination of the definitions given in the *Uniform Mechanical Code and Uniform Plumbing Code.*

4715.0200 BASIC PLUMBING PRINCIPLES.

This section is modified to return it to its original format and intent. From the time the current code was adopted in 1969 until the rules were renumbered and reformatted in 1983, this section provided a point-by-point listing of the 23 basic principles of sanitation

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which serve as the basis of the code, and are used to define the intent of the code. In 1983, one extraneous paragraph was added to the section, and the 23 principles were reorganized and listed under seven different headings.

This 1983 change broke up the listing of the 23 principles, and in effect caused them to lose their identity as the basis for and intent of the code. These principles are merely being returned to their original format to allow them to be recognized as the 23 principles identified in the opening paragraph of the section.

In making this change, the seven headings added in 1983 are eliminated, and the extraneous paragraph relocated in this section in 1983 is relocated in *Minnesota Rules*, p. 4715.0320 which is a more appropriate location.

4715.0310 USE OF PUBLIC SEWER AND WATER SYSTEMS REQUIRED.

This section is amended by adding a reference of the Minnesota Water Well Construction Code relative to the proper abandonment of private water wells which are taken out of service. Some local building officials have stated that they are not able to get people to properly abandon unused wells since they do not have jurisdiction to enforce the Minnesota Water Well Construction Code; they have therefore requested that the abandonment requirement be referenced in the plumbing code so they have jurisdiction to enforce it. This amendment is supported by the State Advisory Council on Plumbing Code and Examinations.

4715.0320 CONFORMANCE WITH CODE.

This section is amended to add a new subpart 1. The materials in subpart 1 is merely being relocated from *Minnesota Rules*, p. 4715.0200 because it more appropriately fits within the description of this section.

4715.0420 STANDARDS AND PLUMBING MATERIALS.

This section is amended in three places. One amendment is to allow the use of PVC complying with ASTM D1785 for water service. This is merely to permit the use of another suitable material which is already approved for such use in many other states. PVC complying with ASTM D1785 has high pressure ratings and is more readily available than the standard dimension-ratio rated PVC which was already approved for water service in the code. These amendments are supported by the State Advisory Council on Plumbing Code and Examinations.

4715.0420 and 4715.0620 are being amended to permit the use of corrugated polyethylene pipe as another acceptable material for subsoil drains. The material has already been widely used for this purpose, and has proven to be an acceptable product. Compliance with the ASTM standard for such material is required to assure that the pipe meets generally accepted requirements for structural integrity and design.

4715.0500 WATER SUPPLY SYSTEMS.

This section is amended by adding a new paragraph to require that pipe and fittings used to convey potable water contain no more than 8 percent lead. This amendment is added because the 8 percent maximum is now part of the federal safe drinking water requirements, and the State could lose up to 5% of the federal safe drinking water grant if this provision is not enforced in the state.

4715.0520 WATER DISTRIBUTION PIPE.

Part F is changed to correct an inadvertent error of omission. Copper tube 3H was incorrectly deleted from this section when 3H(a) and 3H(b) were added during recent rule amendments. Copper tube 3H remains a primary material used for water distribution. It was never the intent to delete this material from the Code, nor were any justifications provided for such deletion.

Parts K and L are amended to reference the current editions of the IAPMO installation standards for plastic tubing 6K (polybutylene) and plastic pipe 6L (chlorinated polyvinyl chloride). These changes merely allow for installation using current accepted practices and have been recommended by the State Advisory Council on Plumbing Code and Examinations.

4715.0580 is amended expressly prohibiting the use of soft temper type M copper tubing for waste and vent piping. Soft temper is intended only for use in conveying water under pressure, and must not be used for gravity drainage of sewage or other wastewater where lengths of pipe must be straight and smooth to assure proper drainage without clogging.

4715.0620: see 4715.0420.

4715.0800 MECHANICAL JOINTS.

Subpart 5 is amended to permit the use of a specific type of mechanical pipe coupling for below-ground installations of water distribution pipe. Such couplings have previously been permitted only for above-ground installations. This change merely allows another acceptable use of an already approved type of pipe joint. Exposed grooves in galvanized pipe must be protected by coal tar enamel coating and wrapping since the galvanizing is removed in the grooving process, and the pipe wall thickness below the groove is reduced. The protection is to prevent the grooved area from corroding and being the weak link in the pipe system. This protection is the same as what is required for exposed threads on galvanized pipe used below ground. The cut groove method is specified as a requirement for galvanized pipe because experience has shown that the alternative method of roll grooving causes excessive deterioration

of the galvanizing even beyond the groove. This amendment is supported by the State Advisory Council on Plumbing Code and Examinations.

Subpart 6 is amended because the existing language was too specific and restrictive as to how the proper insertion depth of a branch tube is achieved in extracted mechanical joint installations. Alternative methods providing acceptable results must also be acceptable. The precise method should not be strictly regulated as long as the desired results can be otherwise achieved.

4715.0805 PUSH-ON JOINTS.

This section is added as a new section to allow use of another acceptable type of joint for cast-iron and ductile-iron water service pipe. This type of joint is used almost exclusively for municipal water main construction, and should also be allowed for water service lines installed in a similar fashion, i.e., underground outside the building. The ANSI standard reference is the standard currently used for water main construction.

4715.0810 PLASTIC JOINTS.

This section is amended by adding new subpart to require that a primer be used for all solvent weld joints in PVC and CPVC pipe. When such joints are used, it is necessary to clean and soften the pipe in the area of the joint before the solvent cement is applied. Without this step, the pipe and fitting will not be properly bonded or welded, and the joint is subject to failure. The primer is required to be a contrasting color so that a plumbing inspector can verify that a primer has been used. A mechanical cleaning method is not acceptable in lieu of using a primer since it does not soften the plastic as necessary for proper bonding or welding of the joint. This amendment is supported by the State Advisory Council on Plumbing Code and Examinations.

4715.0820 SOLDERED OR BRAZED JOINTS.

This section is amended to permit the approval of new types of plumbing solder which are being developed to replace 50-50 solder which can no longer be used for water distribution systems because of its high lead content. The new solders are completely new alloys of compositions not covered by ASTM Standard B32-76.

Compliance with ASTM B32-76 was previously required for a solder to be acceptable. Under this amendment, the Department can also approve solders which are proven to be suitable through laboratory analysis of composition and pressure testing of joints, even though no ASTM standard currently exists for the composition.

This section is further amended to eliminate reference to ASTM B260-52T for brazing filler metal. This was a tentative standard which was not formalized by ASTM, and no longer exists. The amendment provides a more general requirement that brazing be done using methods and materials which fit the particular application, and in accordance with industry standards. Such standards would include those of the American Welding Society, the Copper Development Association, and/or the manufacturer of specific joint-making equipment, depending on the specific application. The requirement that all brazed joints be fluxed is eliminated since some alloys used with copper are self-fluxing. The requirement that industry standards be followed would cover those alloys where flux is needed. These amendments are supported by the State Advisory Council on Plumbing Code and Examinations.

4715.0860 SPECIAL JOINTS.

Subpart 6 is modified to require that transition couplings of elastomeric materials be provided with an exterior shield on above ground installations.

The shield is needed to prevent outward expansion of the coupling which has been identified as an ongoing problem with unshielded installations. Ballooning of unshielded joints could lead to joint fatigue, misalignment, and failure of the joint. This amendment is recommended by the State Advisory Council on Plumbing Code and Examinations.

4715.1220 INSTALLATION OF FIXTURES.

This section is amended to add a minimum clearance requirement to front of water closets. This section already contains side clearance requirements. Because this plumbing code has been silent with respect to a front clearance, some contractors have constructed toilet rooms with so little front clearance that the facilities are not functional since they do not have foot or even knee space in front of the water closet. The 24-inch front clearance will guarantee that all approved installations will be functional. This amendment is supported by the State Advisory Council on Plumbing Code and Examinations.

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4715.1240 BATHTUBS.

This section is amended by adding a new subpart requiring whirlpool bathtubs to comply with the current IAPMO standard for both the design and installation. The code was previously silent regarding such installations and as a result some installations were made without access for equipment, with recirculation pipes that did not drain resulting in stagnant polluted water, and with electrical hazards from non-U.L. listed equipment. The IAPMO standard addresses these concerns, as well as providing tub and piping system construction requirements.

715.1260 is being amended to prohibit the installation of a drinking fountain bubbler directly on or with a cold water faucet intended for uses other than drinking. This prohibition is a basic sanitation provision, and is needed to prevent installations where a drinking fountain bubbler is easily contaminated during use of the cold water faucet for hand washing or other uses. Such combined installations have been implicated in the spread of disease when persons using the faucet for hand washing, especially after using toilet facilities, have contaminated the drinking fountain bubblers.

This section is further amended to require any drinking fountain bubbler at a sink to be separated from any other faucet by at least 18 inches. This separation requirement is needed to assure that a drinking fountain bubbler provided on a sink which is also used for other purposes, such as hand washing, is adequately isolated from the other water uses to prevent direct contamination.

4715.1300 FLOOR DRAINS.

This section is amended by adding a new subpart to require floor drains in enclosed garages to discharge to sanitary sewer. The intent is to prevent undesirable discharge to the surface, to seepage pits, or to the storm sewer of wastes which require treatment by their nature. Enclosed garages do not receive precipitation or run-off water which would normally go to the storm sewer, but instead receive concentrated waste water which needs to be treated. This amendment is supported by the State Advisory Council on Plumbing Code and Examinations.

4715.1305 ELEVATOR PIT DRAINS.

This is a new section which is needed to clarify the proper method of draining an elevator pit. The pit must be drained to the sanitary sewer since it will contain hydraulic fluid, oil, grease, etc., which should not be discharged to the storm sewer. It must have an indirect connection, since the pit drain would be a low spot on the plumbing drainage system which would permit back-up of sewage into the pit if a direct connection was provided. If a sump is used, it must be located outside the pit so that a plumber or plumbing inspector has direct access for maintenance or inspection without having to enter the elevator shaft below the elevator. This new section is supported by the State Advisory Council on Plumbing Code and Examinations.

4715.1380 SHOWERS.

This section is amended by providing a new subpart to require all showers to be equipped with anti-scald-type control valves. This is required to prevent accidents caused by sudden changes in water temperature. Such accidents include scalding resulting from excessive water temperature, and slips and falls resulting from an attempt to quickly move out of the water stream when there is a suddent change in water temperature, either too hot or too cold. Supply temperatures in plumbing systems can fluctuate quickly and with great variations. For instance if there is a sudden great demand on the cold water system, such as for flushing toilets, then a shower on the same system could have reduced cold water pressure, and have a rapid and shocking increase in temperature. Anti-scald valves may be either pressure balance or thermostatic control type provided they comply with the American Society of Sanitary Engineers Standard for shower control valves. Either type will work to minimize the effects of changes in pressure within the water distribution system. The section also allow multiple showers to use a single anti-scale thermostatic blender, or to use individual controls. The multiple shower type would typically be used for school gang showers or similar. The states of Connecticut, Rhode Island and Massachusetts currently have a similar requirement in their codes to require anti-scald protection for all showers, and in addition North Dakota and Wisconsin require such valves for other than single dwelling units. Statistics indicate that the majority of scalding injuries are sustained by children age 6 or less, and adults over 60. These segments of the population are also the ones that need the most built-in protection since they are unable to act or react in an appropriate way to avoid scalding from sudden temperature changes, and also may be more susceptible to injuries from falls when subjected to the shock of sudden temperature changes. Anti-scald-type shower valves are readily available from several manufacturers, and have been used for years to protect patients in health care facilities. Without such protection, an adult can have a second degree burn in five seconds with 140°F water and in just one second with 158°F water, and the effects on children could be even more severe.

4715.1440 PROTECTION OF PLASTIC PIPE.

This new section is added to require protection for plastic pipe which is run through wood studs or wood plates. The steel plate required at such penetrations would help prevent nails or screws from being driven into plastic pipe which is within a wall after the wall is closed up. Without such protection plates, the pipe could be damaged during completion of construction or at any time in the future. Conscientious plumbing contractors currently install such plates to protect piping, and provision of this requirement in the plumbing code would help to clarify that such work is the responsibility of the plumber. This amendment is supported by the State Advisory Council on Plumbing Code and Examinations.

4715.1590 RECEPTORS OR SUMPS.

This section is amended to be more permissive by allowing standpipe receptors for automatic clothes washers to be manifolded together, and use a single trap, to serve multiple units located in the same room. Previously, an individual trap and vent was required for each receptor. This change would allow the use manufactured manifold-type receptors. The consensus of the professions consulted in the plumbing field, feel they should be allowed and that they would not have an adverse impact on the functioning of the drainage system.

4715.1911 TOXIC MATERIALS AND USED PIPE.

This section is amended merely to expand the heading to better describe the material included in the section, and to change the reference number to relocate the material to a more appropriate section of the code.

4715.1912 USED WATER RETURN PROHIBITED.

This section is amended only to change the reference number and relocate the material to a more appropriate section of the code.

4715.1940 POTABLE WATER CONNECTIONS TO HEATING OR COOLING SYSTEMS.

This section is amended by deleting a sentence which has been confusing and open to misinterpretation. The intent of the section is adequately, and more precisely, conveyed without the deleted sentence. The section is intended to permit permanent direct connections of make-up lines to heating or cooling systems with chemicals in them, but only when an approved backflow preventer is located in the potable water line. This amendment is supported by the State Advisory Council on Plumbing Code and Examinations.

4715.1941 HEAT EXCHANGERS.

This section is amended by deleting paragraph B of subpart 3 in its entirety. This paragraph had required that single-wall heat exchangers comply with a specific identified standard, or they could be an alternate design if the administrative authority determined that the same degree of protection against contamination of potable water was provided. There are two reasons why this change has been made. First, it is the Department's opinion, supported by the Advisory Council, that the other three remaining paragraphs of subpart 3 do in themselves contain adequate provisions for the protection of the potable water, and that paragraph B is not needed for this purpose. Second, there are no established criteria by which the administrative authority could determine if the same degree of protection would be provided by an alternative design, therefore, the paragraph was troublesome to enforce and placed an undue and unnecessary burden on the administrative authority.

This section is further amended to be more permissive by allowing high or low pressure steam systems to be used in single-wall heat exchangers without a pressure differential monitoring device. Reasons for this include that steam systems will notify the operator of a heat exchanger failure on their own when system temperature is lost and the boiler fills with water, and most steam systems use food grade additives which do not present a health concern. This change is made in response to industry comments that the previous rule unfairly restricted the use of single-wall heat exchangers with steam systems while not providing any greater degree of protection.

4715.2020 DEVICES FOR THE PROTECTION OF THE POTABLE WATER SUPPLY.

This section is amended by merely deleting the existing language, and substituting the language previously used in *Minnesota Rules*, p. 4715.2140. Section 4715.2140 is then subsequently deleted as a separate amendment. This change is to eliminate duplication since both sections had said essentially the same thing.

4715.2100 VACUUM BREAKERS/BACKFLOW PREVENTERS.

The original heading and language are deleted in their entirety because the material is covered as part of the new language substituted for this section.

The new language is added to provide a convenient listing of all types of backflow preventers acceptable under the code, and to specify the conditions under which each type may be used. The conditions of use listed are really a summarized compilation of how manufacturers state that the devices should be used, and are similar to consensus codes such as the National Standard Plumbing Code and the Uniform Plumbing Code. This new language is really a clarification of installation requirements, and this type of clarification has been requested by many municipal inspectors.

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4715.2110 REDUCED PRESSURE ZONE BACKFLOW PREVENTOR/TYPES OF DEVICES REQUIRED WHERE AN AIR CAP CANNOT BE PROVIDED.

The original heading and language are deleted in their entirety because the material is covered in the new language of *Minnesota Rules*, p. 4715.2100.

The new language is a table which lists several of the most common type of installations where backflow preventers are needed, and also lists the corresponding types of backflow preventers which would be acceptable for each specific situation. As a justification for including the specific installations listed, reference is made to the fact that the U.S. Environmental Protection Agency includes all but six of the installations listed as plumbing hazards in their cross-connection control manual.

The other six are justified as follows:

- Car wash. A backflow preventer is needed because wash water is recycled and contains gas, oil, dirt, etc., as well as soaps and waxes which are injected into the wash systems.

- Glycol or other antifreeze system. A backflow preventer is needed because of the primary and cheapest antifreeze is ethylene glycol which is extremely toxic. Even if a system is initially filled with a less toxic antifreeze, experience has shown that the system is likely to be refilled with ethylene glycol, when fluids are periodically changed, because it is the less expensive fluid.

- Operating, dissection, embalming or mortuary table. A backflow preventer is needed because of various fluids and waste products present which could be backsiphoned into the water supply system.

- Carbonated beverage machine (post-mix). A backflow preventer is needed because the CO_2 being added at the carbonater is a higher pressure than the water distribution system, and many cases of backflow of CO_2 have occurred. When CO_2 comes in contact with copper in the water system, it takes copper into solution and in many cases has caused copper poisoning in people consuming the beverage. The backflow preventer has proven to prevent such occurrences, but a check valve has not.

- RV dump station. A backflow preventer is needed because the hose is used to rinse sewage from RV holding tanks and to wash down the dump station when spills occur. In the process, the hose is often in direct contact wth sewage or within the sewage holding tank. Without a backflow preventer, a loss of pressure in the supply stem could result in siphonage of sewage contaminated water into the water supply.

- Truck fill. The reasoning is similar to that given for RV dump stations. Trucks being filled may contain chemicals such as fertilizers or pesticides. Many instances of backflow of chemicals from trucks into the water supply have occurred, including in Minnesota.

Similar justifications could be given for each situation listed in the table, however, it should be sufficient to provide the six examples above, and note that all of the other situations listed are included in the U.S.E.P.A. cross-connection control manual as plumbing hazards.

415.2120 DEVICES OF ALL TYPES/LOCATION OF BACKFLOW PREVENTERS.

This section is amended by changing the heading to be more descriptive of the material covered. It is also amended to require all devices to be readily accessible rather than just accessible, and a definition of readily accessible has been added in *Minnesota Rules*, p. 4715.0100. Backflow preventers must be readily accessible since they must be frequently observed to detect water flow from the device, and they must be inspected and tested periodically by qualified personnel. Testing includes use of testing equipment and making connections to the device, therefore, it is necessary that all devices be located to facilitate such testing. The section is further amended to prohibit installation in an area subject to flooding, such as a pit, and to require a visible air gap at the device when a conductor pipe is used. The device cannot be in an area subject to flooding since it has opening to the air and if the device was submerged in water it would not only be prevented from functioning to prevent backflow, but the device itself would become a cross connection between the domestic system and the water in the pit. An air gap is needed at the device to provide a visible indication of flow from the device. Such flow could indicate a recurring backflow condition which should be addressed, or it could indicate a fouling of a check valve which must be corrected. If the air gap is only at the end of a conductor pipe instead of at the device, the flow may not be associated with the device and a needed correction may not be made.

4715.2130 TANKS AND VATS BELOW RIM SUPPLY.

This section is deleted because it is confusing and also no longer considered necessary. It is not necessary since use of a backflow preventer is considered to be a preferred and more positive method of backflow prevention than the method previously outlined in this section.

4715.2140 PROTECTIVE DEVICES REQUIRED.

The section is deleted, however, there is no change of substance since the language was moved to *Minnesota Rules*, p. 4715.2020.

4715.2161 INSTALLATION OF REDUCED PRESSURE BACKFLOW PREVENTERS.

This section is amended in three ways: First, the reference number is changed so that the language is included within the section on cross-connection control instead of the later in the code. Second, a provision is added to require notification of the Administrative

Authority when a reduced pressure backflow preventer is installed. This is needed so that the Administrative Authority can be aware of the device's existence and location, and monitor the testing and maintenance pursuant to subpart 2 of this section. Third, a provision is added to require each reduced pressure backflow preventer to have a tag for inspection dates, and to require that written records of testing and maintenance be sent to the Administrative Authority. The tag requirement is similar to that used for fire extinguishers, and is to allow field verification of periodic testing of the device. The written records are needed to allow the Administrative Authority to verify the work required by subpart 2.

The changes in this section were all requested by municipal inspectors who are involved with cross-connection control.

4715.2162 DOUBLE-CHECK DOUBLE-GATE VALVES.

This section is amended only by changing the reference number so that the language is located within the cross connection control section of the code.

4715.2163 CARBONATED BEVERAGE MACHINES.

This is a new section which is added to clarify the requirements necessary to prevent copper poisoning in conjunction with post-mix-type carbonated beverage machines. If carbon dioxide is allowed to backup into copper tubing which brings water to the carbonator, it will react with the copper and allow a high concentration of copper within the system. Copper poisoning can result in serious illness and even death, and many cases have been reported resulting from the use of such machines without appropriate backflow preventers. This section was added at the request of community health services sanitarians who had been having ongoing problems with such installations.

4715.2190 COMBINATION WATER AND SPACE HEATING EQUIPMENT.

This is a new section which was needed to address concerns associated with a type of equipment installation which is new to Minnesota. The installation involves a water heater which heats potable water for consumption and also serves space heating demands by heating water which is circulated through space heating coils. A mixing valve is needed because the extremely cold winter weather may require the user to set the heater for a high water temperature to meet space heating demands, but that temperature might not be safe for domestic hot water. The user needs the capability of controlling the domestic water temperature while still meeting the space heating needs. Without such control, serious burns could result from the high temperature of the domestic water.

A drainage port and isolation valve are needed to drain the stagnant water which has been in the unused space heating coils throughout the nonheating season and prevents it from returning to the heater and being consumed. These provisions allow the user to run the stagnant water to waste.

To assure reliability and warranty of the water heater, it must be of a type which is specifically approved by the manufacturer for such use. Some manufacturers representatives have stated that certain heaters were not intended for such combined use, and should not be used as such.

All materials are required to be of a type approved for potable water distribution. Since, in effect, the space heating loop actually becomes a part of the domestic water distribution system, the water circulated through the space heating coil returns to the water heater and becomes part of the water which is drawn from the heater for domestic consumption. A wall thickness of the space heating coil is listed as an exception since that area would be unenforceable, plus it is consistent with application of the code in general that the piping within a piece of equipment is the responsibility of the manufacturer of the equipment. A water cooler is an example of other such equipment.

4715.2230 TANKLESS AND INSTANTANEOUS TYPE HEATERS.

This section is amended to be more permissive by allowing certain types of water heaters, which meet certain specification, to be used without a pressure relief valve if Underwriters Laboratory approval has been granted for use without a pressure relief valve. For this type of unit, the relief valve is not needed since the unit does not have the capability of producing excessive pressures within the system which might be hazardous or result in explosion.

Dated: 14 December

Sandra J. Hale, Commissioner
Department of Administration

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Rules as Proposed

4715.0100 DEFINITIONS.

[For text of subps 1 to 84, see M.R. 1989]

Subp. 84a. **Readily accessible.** "Readily accessible" means capable of being reached safely and quickly for operation, repair, or inspection without requiring those to whom ready access is requisite to remove obstacles, panels, or similar obstructions.

[For text of subps 85 to 128, see M.R. 1989]

4715.0200 BASIC PLUMBING PRINCIPLES.

This code is founded upon certain basic principles of environmental sanitation and safety through properly designed, acceptably installed and adequately maintained plumbing systems. Some of the details of plumbing construction may vary but the basic sanitary and safety principles desirable and necessary to protect the health of the people are the same everywhere. As interpretations may be required, and as unforeseen situations arise which are not specifically covered in this code, the twenty three principles which follow shall be used to define the intent.

~~As provided in *Minnesota Statutes*, section 326.37, this code applies to all new plumbing installations, including additions, extensions, alterations, and replacements connected with any water or sewage disposal system owned or operated by or for any municipality, institution, factory, office building, hotel, apartment building, or any other place of business regardless of location or the population of the city or town in which located.~~

4715.0310 USE OF PUBLIC SEWER AND WATER SYSTEMS REQUIRED.

~~Where~~ If a public sewer is accessible in a street or alley to a building or premises and the connection is feasible, liquid wastes from any plumbing system in ~~said~~ that building ~~shall~~ must be discharged into the public sewer unless otherwise prohibited by this code or a local ordinance.

~~Where~~ If a public water supply system is accessible, the water distribution system ~~shall~~ must be connected to it unless otherwise permitted by the administrative authority. A water well taken out of service because a person is connecting to a public water supply must either be maintained for a use such as irrigation, or sealed and abandoned in accordance with the Minnesota Water Well Construction Code. *(Minnesota Rules,* chapter 4725)

~~Where~~ If either a public sewer or water supply system or both are not available, an individual water supply or sewage disposal system~~/~~, or both, conforming to the published standards of the administrative authority ~~shall~~ must be provided.

Every building must have its own independent connection with a public or private sewer, except that a group of buildings may be connected to one or more manholes which are constructed on the premises, and connected to a public or private sewer. These manholes must conform to the standards set by the local sewer authority.

4715.0320 CONFORMANCE WITH CODE.

Subpart 1. **Scope.** As provided in *Minnesota* Statutes, section 326.37, the Minnesota Plumbing Code applies to all new plumbing installations, including additions, extensions, alterations, and replacements connected to a water or sewage disposal system owned or operated by or for a municipality, institution, factory, office building, hotel, apartment building, or other place of business regardless of location or the population of the city or town in which it is located.

Subp. 2. **New buildings.** All plumbing materials and plumbing systems or parts thereof ~~shall~~ must be installed to meet the minimum provisions of this code.

Subp. ~~2~~ 3. **Existing buildings.** In existing buildings or premises in which plumbing installations are to be altered, renovated, or replaced, ~~such~~ the new materials and work ~~shall~~ must meet the provisions of this code. ~~Where~~ If the administrative authority ~~shall find~~ finds that the full performance of bringing ~~such~~ the work into compliance with all requirements of this code would result in exceptional or undue hardship by reason of excessive structural or mechanical difficulty, or impracticability, a deviation may be granted by the administrative authority only to the extent ~~such~~ the deviation can be granted without endangering the health and safety of the occupants and the public.

4715.0420 STANDARDS FOR PLUMBING MATERIALS.

[For text of subps 1 and 2, see M.R. 1989]

Subp. 3. **Standards for plumbing materials.**

DESCRIPTION	ANSI	ASTM	FS	OTHER
I. CAST IRON PIPE AND FITTINGS				
	A21.2 A21.6	A-74	WW-P-401C	CS188