1991 No. 50

WATER AND SEWERAGE

Water Regulations (Northern Ireland) 1991

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Coming into operation . . *25th March 1991*

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PREVENTION OF WASTE AND CONTAMINATION OF WATER FROM A HOT WATER SYSTEM

The Department of the Environment, in exercise of the powers conferred by Articles 40 and 57(2) and (3) of the Water and Sewerage Services (Northern Ireland) Order 1973(**a**) and now vested in it(**b**) and of every other power enabling it in that behalf, hereby makes the following Regulations:

(**a**) S.I. 1973/70 (N.I. 2)
(**b**) S.R. & O. (N.I.) 1973 No. 504 Article 4

PART I

GENERAL

Citation, commencement and interpretation

1.—(1) These Regulations may be cited as the Water Regulations (Northern Ireland) 1991 and shall come into operation on 25th March 1991.

(2) In these Regulations—

"backflow" means flow in a direction contrary to the intended normal direction of flow;

"backsiphonage" means backflow caused by the siphonage of liquid from a cistern or appliance into the pipe feeding it;

"boiler" means an enclosed vessel in which water is heated by the direct application of heat;

"check valve" means a mechanical device which—

(*a*) by means of a resilient elastic seal, permits water to flow in one direction only and is closed when there is no flow; and

(*b*) (i) is resistant to corrosion;

(ii) is immune from, or resistant to, dezincification;

(iii) will continue to operate in a continuous water temperature not exceeding 65°C; and

(iv) when shut will prevent the passage of water from inlet to outlet where the water pressure at the valve inlet does not exceed 10mbar;

"cistern" means a fixed container for holding water at atmospheric pressure;

"closed circuit" means a system of pipes and other water fittings through which water circulates but from which water is not drawn for use, and includes a vent pipe fitted thereto but not the feed cistern or the cold feed pipe;

"combined feed and expansion cistern" means a cistern for supplying cold water to a hot water system without a separate expansion cistern;

"communication pipe" means that part of a service pipe which is vested in the Department;

"cylinder" means a cylindrical closed vessel capable of containing water under pressure greater than atmospheric pressure;

"the Department" means the Department of the Environment;

"distributing pipe" means a pipe (other than an overflow pipe or a flush pipe) conveying water from a storage cistern, or from a hot water apparatus supplied from a feed cistern, and under pressure from that cistern;

"draining tap" means a tap which enables water to be drained off;

"draw-off tap" means a tap which enables water to be drawn off;

"expansion cistern" means a cistern connected to a water heating system which accommodates the increase in volume of water in that system when it is heated from cold;

"expansion water" means the additional volume of water at constant pressure created by raising the temperature of the water;

"feed cistern" means any storage cistern used for supplying cold water to a cylinder, tank or hot water apparatus;

"float-operated valve" means a valve for controlling the flow of water into a cistern, the valve being operated by the vertical movement of a float riding on the surface of the water;

"flushing cistern" means a cistern provided with a device for discharging stored water rapidly into a soil pan or urinal;

"flush pipe" means a pipe for conveying water from a flushing cistern to a soil pan or urinal;

"flushing trough" means a flushing apparatus which combines several discharging units in one long cistern to allow more frequent flushing of 2 or more soil pans;

"hot water apparatus" means apparatus which stores, controls, heats or in any way uses hot water;

"indirect cylinder" means a hot water cylinder in which the stored water is heated by a primary heater through which hot water is circulated from a boiler or gas circulator without mixing of the primary and secondary water taking place;

"overflowing level" in relation to a warning or other overflow pipe of a cistern means the lowest level at which water can flow into that pipe from that cistern;

"primary circuit" means an assembly of pipes and fittings in which water circulates between a boiler or other water heater and the primary heater inside a hot water storage vessel;

"primary heater" means a heater mounted inside a hot water storage vessel for the transfer of heat to the stored water from circulating hot water;

"pump delivery pipe" means a pipe conveying water which has been increased in pressure due to the operation of a pump;

"return pipework" means pipework in a secondary system which conveys unused water back to the water storage vessel or to the water heater;

"secondary system" means that part of a hot water system comprising the cold feed pipe, any storage cistern, water heater and flow and return pipework from which hot water for use is conveyed to all points of draw-off;

"servicing valve" means a valve for shutting off the flow of water in a pipe connected to a water fitting to facilitate the maintenance or servicing of that fitting;

"single-feed indirect cylinder" means an indirect cylinder which has only one cold feed pipe connection to supply both the primary and

secondary water, so designed that the formation of an air seal during filling prevents mixing and accommodates expansion of the primary water;

"siphonic apparatus" means a valveless flushing apparatus within a cistern which prevents the waste of water by means of a siphon;

"spill-over level" means the level at which the water in a cistern or vessel will spill over if the inflow exceeds the outflow through an outlet and an overflow pipe;

"stopvalve" means a valve, other than a servicing valve, fitted in a pipeline for controlling or stopping at will the flow of water;

"storage cistern" means a cistern storing water for subsequent use, other than a flushing cistern;

"supply pipe" means so much of a service pipe as is not a communication pipe;

"tank" means a non-cylindrical closed vessel capable of containing water under pressure greater than atmospheric pressure;

"temperature relief valve" means a temperature actuated valve which opens automatically at a pre-set temperature to discharge fluid in order to prevent the temperature in a water heater from exceeding 100°C;

"vent pipe" means a pipe open to the atmosphere and used in connection with a hot water system for the escape of air or steam;

"vented primary circuit" means a primary circuit which is provided with a vent pipe;

"warning pipe" means an overflow pipe so fixed that its outlet, whether inside or outside a building, is in a position where the discharge of water can be readily seen;

"washing trough" means a wash basin, washing trough or sink measuring internally more than 1.2 m over its longest or widest part, at which 2 or more persons can wash at the same time;

"water supplied for domestic purposes" means water supplied by the Department—

(*a*) for drinking, washing, cooking and sanitary purposes; and

(*b*) where it is drawn from a tap inside a dwelling and a hosepipe or similar apparatus is not used, water for watering a garden or for washing vehicles kept for private use;

"water supplied for non-domestic purposes" means—

(*a*) water supplied for domestic purposes which has been drawn off for use;

(*b*) water supplied by the Department which is unfit for human consumption; and

(*c*) water from a source other than the Department.

(3) The abbreviations of, and symbols for, units of measurement used in these Regulations are as follows—

metre	m
millimetre	mm

degree Celsius	°C
millibar	mbar

PART II

PROHIBITIONS AND SAVINGS

General prohibitions

2. A person shall not without reasonable excuse—

(*a*) install a water fitting to convey or receive water supplied by the Department, or connect, alter, disconnect, arrange or use such a water fitting; or

(*b*) cause or permit such a water fitting to be installed, connected, altered, disconnected, arranged or used;

in contravention of any of these Regulations.

Prohibition of waste, misuse or contamination of water

3. A person shall not without reasonable excuse—

(*a*) install, connect, alter, disconnect, arrange or use, or cause or permit to be installed, connected, altered, disconnected, arranged or used, a water fitting in a manner which, or

(*b*) install, connect, or use or cause or permit to be installed, connected, or used, a water fitting which is damaged, worn or otherwise faulty so that it,

causes, or is likely to cause, waste, misuse or contamination of water supplied by the Department.

Savings for fittings lawfully used and fittings used for temporary non-domestic purposes

4. These Regulations shall not have effect so as to—

(*a*) require a person to remove, replace, alter, disconnect or cease to use, a water fitting lawfully installed, or lawfully used, or capable of being used, before these Regulations came into operation; or

(*b*) apply in respect of a water fitting installed or used in connection with water supplied for non-domestic purposes by the Department where the water supplied—

(i) is metered;

(ii) is taken for a period not exceeding one month or, with the written consent of the Department, three months; and

(iii) cannot return through the meter to a pipe belonging to the Department.

PART III

PREVENTION OF CONTAMINATION OF WATER FROM CONTACT WITH UNSUITABLE MATERIALS OR SUBSTANCES

Prohibition of installation of pipes, etc. in contact with contaminating materials

5. A supply pipe, distributing pipe or other water fitting shall not be laid or installed in or on, or pass into or through, foul soil, refuse or a refuse chute, ash pit, sewer, drain, cesspool, or a manhole connected with any such sewer, drain or cesspool.

Prohibition of installation of pipes, etc. suspectible to permeation or deterioration

6. A supply pipe, distributing pipe or other water fitting made of material which is susceptible to—

(*a*) permeation by a gas which causes, or is likely to cause, or

(*b*) deterioration by contact with a substance which causes, or is likely to cause,

contamination of the water in that pipe or fitting, shall not be laid or installed in a place or position where such permeation or deterioration occurs or is reasonably likely to occur.

Prohibition of use of contaminating material in contact with water

7.—(1) Subject to paragraph (2), a material or substance which causes, or is likely to cause, contamination of water shall not be used in the construction or installation of a water fitting intended to convey or receive water supplied for domestic purposes.

(2) Paragraph (1) shall not apply to—

(*a*) a hosepipe used in connection with a clothes-washing machine, dishwashing machine or tumbler drier, where the pipe or other fitting to which that hosepipe is, or may be, connected incorporates a check valve or some other no less suitable device to prevent the backflow or backsiphonage of water through that hosepipe;

(*b*) a flushing cistern;

(*c*) a feed cistern connected to a primary circuit;

(*d*) a closed circuit; or

(*e*) a warning pipe.

Prohibition of coal tar in pipes, etc.

8. A pipe, pipe fitting or storage cistern shall not be internally lined or coated with coal tar, or a substance which includes coal tar.

Prohibition of lead in pipes, etc.

9. A lead pipe or other water fitting, or a storage cistern made from, or internally lined with, lead shall not be installed (whether or not by way of repair or replacement of a similar pipe, fitting or cistern).

Prohibition of connecting copper pipes with lead pipes

10.—(1) Subject to paragraph (2), a copper pipe shall not be connected to or incorporated with a lead pipe (whether or not by way of repair or replacement).

(2) Paragraph (1) shall not apply where suitable means are employed to prevent, so far as is reasonably practicable, corrosion through galvanic action.

PART IV

PREVENTION OF CONTAMINATION OF WATER BY BACKSIPHONAGE, BACKFLOW OR CROSS CONNECTION

Interpretation of Part IV

11. In this Part—

"backflow prevention device" means either a Type A or Type B air gap, a check valve, a double check valve assembly, a combination of check valve and vacuum breaker, a pipe interrupter, or some other water fitting or arrangement of water fittings designed to prevent the backflow or backsiphonage of water;

"critical water level" in relation to a Type B air gap means the steady water level in a cistern, vessel or other water fitting when there is a maximum inflow of water and all outlets, except any overflow, are closed;

"double check valve assembly" means a mechanical device comprising 2 check valves with a test cock between them;

"pipe interrupter" means a non-mechanical device without moving, flexible or elastic parts which—

(*a*) in the event of a vacuum in a pipe in which it is installed will admit air into it to prevent the backflow of water;

(*b*) is resistant to water corrosion and is immune from, or resistant to, dezincification; and

(*c*) has an unobstructed air inlet aperture or apertures which, when a vacuum occurs on the inlet side, produces a corresponding vacuum on the outlet side not exceeding 5 mbar below atmosphere;

"Type A air gap" occurs if there is an arrangement of water fittings whereby—

(*a*) water is discharged into a cistern, vessel or other fitting which has at all times an unrestricted overflow to the atmosphere;

(*b*) the pipe discharging into that cistern, vessel or other water fitting is not obstructed;

(*c*) water is discharged downwards into the cistern, vessel or other fitting at not more than 15° from vertical; and

(*d*) the vertical distance from the spill-over level of the unrestricted overflow of that cistern, vessel or other fitting to the point above

that spill-over level which is the lowest point of any pipe or fitting which discharges into that cistern or vessel or fitting is not less than that set out in column 2 in Schedule 1 in relation to a pipe or outlet of the appropriate bore set out opposite thereto in column 1;

"Type B air gap" occurs when water is discharged into a cistern, vessel or other water fitting which is open at all times to the atmosphere, and the vertical distance between the lowest point of discharge into that cistern, vessel or water fitting and its critical water level is either—

(*a*) sufficient to ensure that, if there were a vacuum in that discharge pipe or fitting, water in the cistern, vessel or water fitting would not be siphoned back into that pipe or fitting, or

(*b*) not less than that set out in column 2 in Schedule 1 in relation to a pipe or outlet of the appropriate bore set out opposite thereto in column 1;

"unrestricted" means that no object shall be closer than 3 times the bore of the inlet pipe to the pipe or to the vertical projection of the pipe between the pipe and the spill-over level of the receiving vessel;

"vacuum breaker" means a mechanical device with an air inlet which is closed when water flows past it at or above atmospheric pressure but which opens to admit air if there is a vacuum in the pipe and closes so as to be watertight when the flow of water is resumed at or above atmospheric pressure.

Prohibition of connections to convey or receive water for non-domestic purposes

12.—(1) Subject to paragraph (2), a supply or distributing pipe which conveys, or a cistern which receives, water supplied for domestic purposes shall not be connected so that it can convey or receive water supplied for non-domestic purposes.

(2) Paragraph (1) shall not apply to a cistern, or to a pipe conveying water from such a cistern to a point of use, if water is discharged into that cistern through a Type A air gap.

Prohibition of cross connections

13.—(1) A pump or other apparatus shall not be connected in or to a supply pipe for the purpose of increasing the pressure in, or rate of flow from—

(*a*) a service pipe; or

(*b*) a water fitting connected on or to a service pipe;

except with the prior written consent of the Department.

(2) A supply pipe, or pump delivery pipe drawing water from a supply pipe, shall not convey, or be connected so that it can convey, water from—

(*a*) a distributing pipe;

(*b*) a storage or flushing cistern;

(*c*) a pump delivery pipe drawing water from a distributing pipe or cistern;

(*d*) a pipe or vessel pressurised by compressed air or gas; or

(*e*) a source other than the Department.

Prohibition of connections of closed circuits to supply pipes

14.—(1) Subject to paragraph (2), a closed circuit shall not be connected to a supply pipe.

(2) Paragraph (1) shall not apply to a temporary connection provided—

(*a*) the connection is made through a double check valve assembly or some other no less effective device which is permanently connected to that circuit; and

(*b*) the temporary connection is removed after use.

Prohibition of connections of cistern-fed primary circuits to secondary systems

15. A pipe forming part of a cistern-fed vented primary circuit shall not be connected to a pipe forming part of a secondary system.

Draw-off taps to baths, sinks, etc.

16.—(1) Subject to paragraph (3), a draw-off tap or similar fixed fitting (other than a shower hosepipe) installed to discharge water into a bath, sink, washbasin or similar fixed appliance (other than a bidet) shall—

(*a*) incorporate a double check valve assembly;

(*b*) have fitted as close as is practicable to the point of draw-off or use, some other no less effective device to prevent the backflow or backsiphonage of water; or

(*c*) comply with paragraph (2).

(2) For the purpose of paragraph (1)(*c*) the vertical distance from the spill-over level of that bath, sink or other appliance to the point above that spill-over level which is the lowest point of any draw-off tap, combination fitting or other fixed fitting which discharges into that bath, sink or other appliance shall not be less than that set out in column 2 in Schedule 2 in relation to a tap or fitting of the size set out opposite thereto in column 1

(3) Paragraph (1) shall not apply to a draw-off tap or other water fitting where—

(*a*) that tap or fitting draws water by gravity only from a cistern, cylinder or tank having a vent pipe open at all times to the atmosphere;

(*b*) the vertical distance between the point at which the pipe supplying water to that tap or other fitting connects to the cistern, cylinder or tank and the spill-over level of the relevant bath, sink or other appliance is not less than 25 mm; and

(*c*) the pipe supplying water to that tap or other fitting does not supply water to any other tap or fitting (other than a draining tap) at a lower level.

Shower hose connections

17.—(1) Subject to paragraph (2), a draw-off tap or other water fitting which incorporates a shower hosepipe (whether or not operated by a manual or automatic diverter) installed to discharge water into a bath, shower tray, sink, washbasin or similar fixed appliance (other than a bidet) shall—

(*a*) incorporate a double check valve assembly;

(*b*) incorporate a check valve and a vacuum breaker; or

(*c*) have fitted as close as is practicable to the point of draw-off or use some other no less effective device to prevent the backsiphonage or backflow of water.

(2) paragraph (1) shall not apply to a draw-off tap or other fitting where—

(*a*) the tap or other fitting is installed as described in paragraphs (*a*), (*b*) and (*c*) of regulation 16(3);

(*b*) the showerhead of a shower hosepipe is constrained by a fixed or sliding attachment so that it can only discharge water at a point not less than 25 mm above the spill-over level of the relevant bath, shower tray or other fixed appliance; or

(*c*) the vertical distance between the showerhead of an unconstrained shower hosepipe and the spill-over level of the relevant bath, shower tray or other fixed appliance is not less than that set out in column 2 in Schedule 2 in relation to a tap or fitting of the size set out opposite thereto in column 1.

Hosepipe connections

18.—(1) Subject to paragraph (2), a hosepipe, other than a shower hosepipe installed in accordance with regulation 17 or a hosepipe supplying water to a clothes-washing machine, dishwashing machine or tumbler drier complying in either case with regulation 22, shall not be connected to a draw-off tap or other similar fitting for use either inside or outside premises.

(2) Paragraph (1) shall not apply to a hosepipe connected to a draw-off tap or other similar fitting which—

(*a*) draws water by gravity only from a cistern by means of a pipe which does not supply water to a draw-off tap or similar fitting (other than a draining tap) at a lower level; or

(*b*) is on domestic premises, or elsewhere with the written consent of the Department, and incorporates as close as is practicable to the point of draw-off or use either a double check valve assembly or some other backflow prevention device which is no less effective.

Restrictions on connection of bidets

19.—(1) A bidet which is equipped with a submersible spray, or a draw-off fitting to which a hand held spray is attached, shall not be connected to a supply pipe.

(2) A hand held spray or similar fitting shall not be attached to a draw-off fitting on a bidet connected to a supply pipe.

(3) In this regulation—

"draw-off fitting" means a fitting which enables water to be drawn off;

"submersible spray" means a spray arrangement within a bidet such that the spray may become submerged by water in the bidet.

20. A bidet connected to a supply pipe—

(*a*) shall be of the over-rim water feed type; and

(*b*) shall be installed so that the vertical distance between the point of outlet of any draw-off tap or similar fitting and the spill-over level of the bidet is not less than that set out in column 2 in Schedule 2 in relation to a tap or fitting of the size set out opposite thereto in column 1.

21.—(1) Subject to paragraph (2), a hot water pipe or water heater which supplies hot water, and a distributing pipe which supplies cold water, to a bidet shall not also supply water to any other draw-off tap or similar fitting (except a draining tap) which can discharge water at a point below the spill-over level of the bidet.

(2) Paragraph (1) shall not apply to—

(*a*) a pipe supplying water to a bidet which complies with regulation 20;

(*b*) a distributing pipe which supplies cold water only to a flushing cistern or to a urinal; or

(*c*) a hot water pipe which supplies water only to a bidet and which either—

(i) has a check valve and vent pipe arranged to prevent the back-flow or backsiphonage of water from a bidet; or

(ii) is fitted with some other no less effective backflow prevention device.

Clothes-washing and dishwashing machines and tumbler driers

22.—(1) A clothes-washing machine, dishwashing machine or tumbler drier connected permanently or temporarily to the water system in premises shall incorporate either a Type B air gap or a pipe interrupter which, if removed, renders the machine inoperable.

(2) Subject to paragraph (3), a machine of a kind mentioned in paragraph (1) which is connected permanently or temporarily to the water system elsewhere than in a domestic dwelling shall, in addition to complying with that paragraph, draw water by gravity only from a storage cistern.

(3) Paragraph (2) shall not apply where a machine mentioned in that paragraph incorporates a Type A air gap.

Water softeners used in connection with clothes-washing and dishwashing machines and tumbler driers

23.—(1) Subject to paragraph (2), the inlet pipe of an ion-exchange common salt regenerated type water softener used in connection with a clothes-washing machine, dishwashing machine or tumbler drier shall be fitted with a check valve and vacuum breaker or some other no less effective backflow prevention device.

(2) Paragraph (1) shall not apply where the supply of water to such a softener passes first through the backflow prevention device incorporated with that washing machine or tumbler drier pursuant to regulation 22(1).

Pipes conveying water to cisterns

24.—(1) Subject to paragraph (2), a supply pipe conveying water to a cistern (whether or not fitted with a float-operated valve) shall—

(*a*) if the cistern receives or contains, or is likely to receive or contain, a substance which is, or is likely to be, harmful to health, incorporate a Type A air gap; or

(*b*) if the cistern supplies water to a primary circuit in a domestic dwelling or is a flushing cistern, incorporate either a Type B air gap, a pipe interrupter or a double check valve assembly.

(2) Paragraph (1)(*b*) shall not apply to a supply pipe conveying water to a cistern which—

(*a*) complies with regulation 30; or

(*b*) is fitted with a float-operated valve of a reducing flow type which will prevent backsiphonage through it if a vacuum occurs in the feed pipe.

General requirements for protection at draw-off points

25.—(1) Subject to paragraph (3), a pipe through which water is supplied for domestic purposes to a point of use or draw-off where backflow or backsiphonage is, or is likely to be, harmful to health by reason of a substance which—

(*a*) is continuously or frequently present in contaminated water; or

(*b*) may be present in contaminated water;

shall in the case of (*a*) incorporate a Type A air gap and in the case of (*b*) incorporate a Type A or Type B air gap, a pipe interrupter, a combination of check valve and vacuum breaker, double check valve assembly, or some other no less effective backflow prevention device.

(2) Subject to paragraph (3), a pipe through which water is supplied for domestic purposes to a point of use or draw-off where backflow or backsiphonage is not, or is not likely to be, harmful to health, shall incorporate a check valve or some other no less effective backflow prevention device.

(3) Paragraphs (1) and (2) shall not apply where a pipe supplying water to a point of use or draw-off is supplied from a cistern which—

(*a*) supplies water by gravity only to the point of use or draw-off;

(*b*) is installed so that the vertical distance between the spill-over level of a vessel containing used or contaminated liquid at a point of use or draw-off, and the invert level of the warning pipe in the cistern, is not less than 300 mm;

(*c*) is installed so that the vertical distance between the spill-over level of a vessel containing used or contaminated liquid at a point of use or draw-off, and the lowest point inside the cistern, is not less than 15 mm; and

(*d*) is fed with water from a pipe fitted with one of the backflow prevention devices mentioned in paragraph (1).

(4) If the contents of a cistern mentioned in paragraph (3) are likely to be contaminated by any disturbance or splashing of contaminated liquid in a

vessel at a point of use or draw-off the cistern shall be covered as described in regulation 30(1)(*d*).

Secondary backflow protection

26. A supply or distributing pipe which conveys water to 2 or more separately occupied premises (whether or not they are separately rated or chargeable by the Department for a supply of water) shall be fitted with such a combination of check valves, vacuum breakers, double check valve assemblies or some other no less effective backflow prevention devices as effectively prevents the backflow or backsiphonage of water from one of those premises to another.

Pipes in non-domestic premises to be readily distinguishable

27. In premises other than a domestic dwelling every—

(*a*) supply pipe; and

(*b*) pipe for supplying water solely for fire-fighting purposes;

shall be clearly and indelibly marked so that such pipes are readily distinguishable from each other and every other pipe in those premises.

Separation of pipes in fire-fighting installations from other fittings

28. A water fitting or other equipment shall not be connected to a pipe installed solely for the supply of water for fire-fighting purposes unless it is connected solely for those purposes.

Accessibility of backflow prevention devices

29. A backflow prevention device shall, so far as is reasonably practicable, be installed so that it is accessible for examination, repair or replacement.

PART V

PREVENTION OF WASTE AND CONTAMINATION OF STORED WATER

Cisterns storing water for domestic purposes

30.—(1) A storage cistern for water supplied for domestic purposes shall—

(*a*) be installed in a place or position which will prevent the entry into that cistern of surface or ground water, foul water, or water which is otherwise unfit for human consumption;

(*b*) be protected from heat and frost;

(*c*) where it is made of a material which contaminates or is likely to contaminate stored water, be lined or coated with an impermeable material designed to prevent such contamination;

(*d*) have a rigid, close fitting and securely fixed cover which—

(i) is not airtight;

(ii) excludes light and insects from the cistern;

(iii) is made of a material which does not shatter or fragment when broken and which will not contaminate water which condenses on its underside;

(iv) in the case of a cistern storing more thaan 1000 litres of water, is constructed so that the cistern may be inspected and cleansed without having to be wholly uncovered; and

(v) is made to fit closely around a vent or expansion pipe installed to convey water into the cistern.

(2) Warning and overflow pipes fitted to storage cisterns for water supplied for domestic purposes shall be constructed and arranged as to exclude insects.

Placing of storage cisterns

31. A storage cistern shall be installed in a place or position such that—

(*a*) the inside may be readily inspected and cleansed; and

(*b*) a float-operated valve or other device used for controlling the inflow of water may be readily installed, repaired, renewed or adjusted.

Support of storage cisterns

32. A storage cistern shall be adequately supported to avoid distortion or damage to it, or to a water fitting connected directly to it.

Pipes supplying water to storage cisterns

33.—(1) Subject to paragraph (2), a pipe supplying water to a storage cistern shall be fitted with a float-operated valve or some other no less effective device to control the inflow of water and prevent an overflow.

(2) Paragraph (1) shall not apply to a pipe connecting 2 or more storage cisterns each of which has the same overflowing level.

Fixing and adjustment of float-operated valves

34.—(1) A float-operated valve or other device which controls the inflow of water to a storage cistern shall be—

(*a*) securely and rigidly fixed to that cistern; and

(*b*) installed so that the inflow of water is shut off when the level of the water in the cistern—

(i) is not less than 25 mm below the overflowing level of that cistern; or

(ii) where the cistern is fitted with an instrument or alarm mentioned in regulation 38(2), is not less than 50 mm below the overflowing level of that cistern.

(2) A feed pipe supplying water to such a valve or other device as is mentioned in paragraph (1) shall be connected, braced and supported so as to prevent it from moving or buckling in relation to the thrust of that valve or other device.

Cistern-fed and vented primary circuits

35.—(1) A vent pipe connected to a cistern-fed primary circuit shall not be installed to convey water into a cistern which supplies water to a secondary system.

(2) A warning or overflow pipe from a cistern connected to a vented primary circuit shall not be installed to convey water to a cistern from which water is, or may be, drawn for domestic purposes.

Primary heater within double-feed indirect cylinders

36.—(1) Subject to paragraph (2), in a double-feed indirect cylinder from which stored hot water is, or may be, drawn for domestic purposes, the pressure in the primary heater within that cylinder shall not exceed the pressure of the stored water under normal operating conditions.

(2) Paragraph (1) shall not apply to a cylinder inside which the primary heater—

(*a*) has no joints; or

(*b*) is constructed so that the joints will withstand water pressure to which they are, or may be, subject under normal operating conditions.

(3) In this regulation ''double-feed indirect cylinder'' means an indirect cylinder which has separate cold feed pipe connections for both the primary circuit and the secondary circuit.

Single-feed indirect cylinders

37.—(1) A single-feed indirect cylinder shall not be connected directly to a supply pipe.

(2) A single-feed indirect cylinder shall—

(*a*) have a permanent vent to the atmosphere; and

(*b*) be so constructed and installed that water in the primary circuit shall not mix with water in the secondary circuit or any associated central heating system when operating at a sustained temperature not exceeding 80°C.

(3) In this regulation ''secondary circuit'' means an assembly of pipes and fittings in which water circulates in distributing pipes to and from a water storage vessel.

Fitting of warning and overflow pipes

38.—(1) A storage cistern which has a capacity exceeding 1,000 litres shall, subject to paragraph (2), be fitted with a warning pipe and an overflow pipe, and other storage cisterns shall be fitted with a warning pipe only.

(2) Paragraph (1) shall not require the fitting of a warning pipe where—

(*a*) in the case of a storage cistern with a capacity exceeding 5,000 litres but not exceeding 10,000 litres, that cistern is fitted with an instrument which indicates when the water level is not less than 25 mm below the overflowing level of the lowest overflow pipe; or

(*b*) in the case of a storage cistern with a capacity exceeding 10,000 litres, that cistern is fitted with an audible or visual alarm operating

independently of the valve or device which controls the inflow of water and which indicates when the water in the cistern is about to overflow.

(3) In this regulation "capacity" means the volume of water which the cistern is capable of holding, measured to its overflowing level.

Discharge from warning pipe

39. A warning pipe shall be installed so as to discharge water immediately the water in the cistern reaches overflowing level.

Prohibition of flexible hose connection to warning and overflow pipes

40. A warning or overflow pipe shall not comprise, include or have connected to it, a flexible hose.

Cisterns having a common warning pipe

41. Where 2 or more cisterns have a common warning pipe that pipe shall be installed so that the source of overflow may be readily identified and shall be so arranged that overflow from one cistern cannot discharge into another.

Requirements for float-operated valves

42.—(1) A float-operated valve installed in a cistern or other apparatus shall—

(*a*) be capable of controlling the flow of water into that cistern or apparatus;

(*b*) be watertight when closed;

(*c*) incorporate either a renewable seat and washer which are resistant to both corrosion and erosion by water or some other no less effective valve assembly;

(*d*) be capable of withstanding without leaking when closed an internal hydraulic pressure 1.5 times the pressure to which it will ordinarily be subject;

(*e*) have a float which—

(i) is constructed of material capable of withstanding, without leaking, any water temperature in which it operates or is likely to operate; and

(ii) has a lifting effort such that when not more than half immersed, the valve is capable of droptight closure against the highest pressure to which that valve is likely to be subject; and

(*f*) have a lever which—

(i) when the valve is closed will withstand, without bending or distorting, a force twice that to which it is ordinarily subject; and

(ii) in the case of a half-inch valve, is constructed so that the water shut-off level may be altered or adjusted without bending the float lever.

(2) In this regulation "droptight closure" means the closure within a float-operated valve whereby the piston closes against the seat if the washer is removed.

Float-operated valves conveying hot water

43. A float-operated valve shall not be installed to convey hot water to a cistern unless—

(*a*) it is constructed of materials capable of withstanding, without leaking, any ordinary operating water temperature to which it may be subject;

(*b*) so far as it is reasonably practicable, its operation is not, and is not likely to be, prevented or impaired by scale; and

(*c*) having regard to scale which is, or is likely to be, deposited on the valve or float, it is adjusted to prevent any overflow.

Flow control devices other than float-operated valves

44. A valve or device installed for controlling the inflow of water into a storage cistern (other than a float-operated valve) shall be capable of controlling the flow of water into that cistern.

Location of storage cisterns supplying water for non-domestic purposes

45. A storage cistern for water supplied for non-domestic purposes and a cylinder or water fitting used in connection with it shall not be installed in a place or position which may result in the stored water becoming unfit for the purpose for which it is intended.

Animal drinking troughs and bowls

46.—(1) A pipe which conveys water supplied by the Department to a drinking trough or drinking bowl for animals or poultry shall be fitted with a float-operated valve or some other no less effective device to control the inflow of water and prevent overflow.

(2) Regulations 31 to 34 shall apply to a trough or bowl mentioned in paragraph (1) as they apply to a storage cistern.

Ponds, fountains and pools

47. A pond, fountain or pool the capacity of which exceeds 10,000 litres and which is filled or supplied with water from the Department's mains shall have an impervious lining or membrane to prevent the leakage or seepage of water.

PART VI

PREVENTION OF WASTE OF WATER FROM DAMAGE TO WATER FITTINGS FROM CAUSES OTHER THAN CORROSION

Covering of pipes, etc.

48.—(1) Subject to paragraphs (2) and (3), the vertical distance between the top of a pipe or other water fitting laid or installed below ground and the finished ground level shall be—

(*a*) not less than 750 mm; and

(*b*) not more than 1.35 m.

(2) Where it is impracticable to comply with paragraph (1)(*a*), a pipe or other water fitting shall be laid or installed as deep as is reasonably practicable below the finished ground level and shall be effectively protected against damage from freezing and from any other cause.

(3) This regulation shall not apply to a pipe or other water fitting which is laid or installed in the ground under a building or structure of a permanent nature.

(4) In this regulation "finished ground level" means the level of the finished surface of the ground after settlement and final reinstatement.

Protection of pipes, etc. against damage from freezing and other causes

49.—(1) Subject to paragraph (2), a pipe or other water fitting whether installed inside or outside a building or structure shall, so far as is reasonably practicable, be effectively protected—

(*a*) whether by the manner of its installation, by insulation, or by some other no less effective means, against damage from freezing; and

(*b*) against damage from other causes.

(2) Paragraph (1)(*a*) shall not apply to—

(*a*) a pipe or water fitting installed below ground level in accordance with regulation 48(1);

(*b*) a warning or overflow pipe.

Protection of plastics pipes from petroleum products

50. A pipe made of plastics which is likely to be damaged by exposure to oil or petrol shall, so far as is reasonably practicable, be covered or otherwise effectively protected from such damage.

PART VII

PREVENTION OF WASTE FROM, AND CONTAMINATION BY, UNSUITABLE OR IMPROPERLY INSTALLED WATER FITTINGS

Prohibition of contaminating materials or substances

51. A water fitting which conveys water supplied by the Department for domestic purposes shall not—

(*a*) be made wholly or partially of, or incorporate, or

(*b*) be lined or coated with,

material or substance which contaminates, or is likely to contaminate, such water by altering its colour, odour, taste or composition.

Materials for the construction of water fittings

52. A water fitting shall be constructed of materials, the nature, strength and thickness of which (including any internal lining or external coating) will prevent, so far as is reasonably practicable, damage from—

(*a*) an external load;

(*b*) vibration, stress or settlement;

(*c*) internal water pressure;

(*d*) internal and external temperatures; and

(*e*) corrosion.

Laying and jointing of pipes and pipe fittings

53. A water fitting which—

(*a*) is installed below ground;

(*b*) passes through or under a wall, footing or foundation;

(*c*) is embedded in a wall or solid floor;

(*d*) is enclosed in a chase or duct; or

(*e*) is in any other position which is inaccessible, or to which access is difficult;

shall be—

(i) constructed to withstand without bursting, buckling, fracture or leaking an internal hydraulic pressure twice that to which it would normally be subject;

(ii) installed to accommodate any reasonably foreseeable movement (including thermal movement) in the pipe; and

(iii) except in a closed circuit, resistant to dezincification.

Support and securing of pipes

54. Pipes shall be adequately supported and secured so as to avoid damage from an airlock or reverberation.

Cleaning pipes after installation or repair

55. A pipe which supplies, or may supply, water for domestic purposes shall be flushed to remove debris before it is first used after installation, renewal or repair.

Prevention of warming of water in pipes

56. A supply pipe installed in a dwelling which supplies cold water for domestic purposes to a tap shall be installed in such a place or position that, so far as is reasonably practicable, the water will not be warm when it is drawn off from that tap.

Use of adhesives in jointing metal pipes

57. A metal pipe which—

(*a*) is installed in the ground or passes through or under a wall, footing or foundation;

(*b*) is embedded in a wall or solid floor;

(*c*) is enclosed in a chase or duct; or

(*d*) is in any other place or position to which access is difficult;

shall not be connected to any other water fitting by means of an adhesive.

Accessibility of pipes and other water fittings

58.—(1) Subject to paragraph (2), a pipe or other water fitting shall not be embedded in a wall or solid floor or installed at ground level in or below a solid floor or under a suspended floor.

(2) Paragraph (1) shall not apply to—

(*a*) a pipe or other water fitting installed in a chase or duct (not being the cavity in a cavity wall) in a wall or solid floor, and which may, if necessary, be readily exposed;

(*b*) a pipe (but not a pipe joint) or other water fitting installed in a pipe sleeve or duct in or under a solid floor, and which may, if necessary, be readily removed and replaced;

(*c*) a pipe installed in an internal wall which is not a solid wall; or

(*d*) a pipe or other water fitting installed under a suspended floor at ground level, and which may, if necessary, be readily removed and replaced.

Disconnection of water fittings

59.—(1) Subject to paragraph (2), a pipe, or part of a pipe, which conveys water to a water fitting shall, if that water fitting is disconnected, be disconnected.

(2) Paragraph (1) shall not apply where a water fitting is disconnected for repair or renewal and is replaced within a period of 60 days.

Connection of water fittings of dissimilar metals

60. A metal pipe or pipe joint or other water fitting shall not be connected to any other pipe, pipe joint or water fitting constructed of a different metal (whether or not by way of repair or replacement) unless, either—

(*a*) deterioration through galvanic action is unlikely to occur; or

(*b*) effective measures are taken to prevent such deterioration.

PART VIII

STOPVALVES, ETC.

Meaning of premises in this Part

61. In this Part "premises" means premises supplied with water by the Department.

Provision and location of stopvalves generally

62.—(1) A supply pipe and distributing pipe providing water to premises shall be fitted with a stopvalve to enable the supply to those premises to be shut off without shutting off the supply to other premises.

(2) A stopvalve mentioned in paragraph (1) shall, so far as is reasonably practicable, be—

(*a*) inside premises;

(*b*) above floor level;

(*c*) as near as possible to the point where the supply first enters the premises; and

(*d*) so installed that its closure will prevent the supply of water to a point of use.

Provision and location of stopvalves on common supply and distributing pipes

63.—(1) A common supply pipe and common distributing pipe providing water to 2 or more premises shall be fitted with a stopvalve (whether inside or outside premises) to which each occupier of premises has access.

(2) A stopvalve mentioned in paragraph (1) shall be installed so that its closure prevents the supply of water to all of the premises supplied by that common pipe.

Requirements for stopvalves

64. A stopvalve fitted in pursuance of regulations 62 and 63 shall—

(*a*) be watertight when closed;

(*b*) be watertight when open and subjected to an internal hydraulic pressure 1.5 times the pressure to which it is ordinarily subject;

(*c*) except in the case of a plug valve, be so designed or adapted that its seal can be readily renewed;

(*d*) not incorporate a loose washer plate; and

(*e*) be reasonably resistant to corrosion.

Draining of supply pipes

65. A supply pipe in premises shall be installed so that when the stopvalve installed in pursuance of regulation 62 in respect of those premises is closed, and a draining tap is open, that pipe may be drained.

Provision of draining taps

66. A supply pipe in premises shall be fitted with a draining tap which—

(*a*) is watertight when closed and subjected to an internal hydraulic pressure 1.5 times the pressure to which it is normally subject;

(*b*) is so designed or adapted that its seal can be readily renewed; and

(*c*) is reasonably resistant to corrosion.

Location of draining taps

67. A draining tap fitted to a supply pipe shall not be—

(*a*) buried in or covered with soil; or

(*b*) installed so that it is submerged, or is likely to be submerged.

Provision and location of servicing valves generally

68. A pipe for conveying water from—

(*a*) a cold water storage cistern the capacity of which exceeds 18 litres; or

(*b*) a hot water storage cistern, cylinder or tank;

shall be fitted with a servicing valve as close to that cistern, cylinder or tank as is reasonably practicable.

Provision and location of servicing valves in connection with float-operated valves

69.—(1) A pipe supplying water to a float-operated valve shall be fitted with a servicing valve to shut off the supply of water to that valve.

(2) A servicing valve installed in pursuance of paragraph (1) shall be fitted as near as is reasonably practicable to the float-operated valve.

Restriction on use of servicing valves

70. A servicing valve shall not be installed as the sole means of controlling or preventing the flow of water through a pipe unless that valve complies with the requirements relating to stopvalves in regulation 64.

Requirements for servicing valves

71. A servicing valve shall be—

(*a*) designed or adapted to operate only by the insertion of a screwdriver or other instrument in a slot on the valve, except where it—

(i) complies with the requirements relating to stopvalves in regulation 64; or

(ii) is installed on a distributing pipe with a static water pressure not exceeding one bar;

(*b*) watertight when closed; and

(*c*) capable of withstanding without leaking an internal hydraulic pressure 1.5 times the pressure to which it is ordinarily subject.

Watertightness of backflow prevention devices

72.—(1) A vacuum breaker, check valve, double check valve assembly or combination of check valves and vacuum breakers installed in a pipe shall be—

(*a*) watertight when closed; and

(*b*) capable of withstanding, without leaking, an internal hydraulic pressure 1.5 times the pressure to which it is ordinarily subject.

(2) In this regulation "vacuum breaker" and "double check valve assembly" have the meaning given to them in regulation 11.

Accessibility of stopvalves and servicing valves

73. A stopvalve and servicing valve installed in pursuance of this Part shall be so placed that so far as is reasonably practicable it can be readily examined, maintained and operated.

PART IX

WATER CLOSETS AND URINALS

Requirements for soil pans

74. A soil pan shall be—

(*a*) supplied with water from a flushing cistern or trough of the valveless type which incorporates siphonic apparatus; and

(*b*) so made and installed that after normal use its contents can be cleared effectively by either—

(i) a single flush of water; or

(ii) where the cistern or trough is designed to give flushes of different volumes, the larger or largest of those flushes.

Limits of flush in soil pans in domestic dwellings

75. A flushing cistern installed for use with a soil pan in a domestic dwelling shall not give—

(*a*) subject to regulation 77, if it is designed or adapted to give only a single flush, a flush exceeding 7.5 litres; or

(*b*) if it is designed or adapted to give flushes of different volumes, and is installed before 1st January 1993, a maximum flush exceeding 9.5 litres.

Limits of flush in soil pans other than in domestic dwellings

76. A flushing cistern installed for use with a soil pan other than in a domestic dwelling shall not give—

(*a*) subject to regulation 77, if it is designed or adapted to give only a single flush, a flush exceeding 7.5 litres; or

(*b*) if it is designed or adapted to give flushes of different volumes, and is installed before 1st January 1993, a maximum flush exceeding 9.5 litres.

Installation or replacement of flushing cisterns

77. Regulations 75(*a*) and 76(*a*) shall not apply to—

(*a*) the installation before 1st January 1993 of a flushing cistern designed or adapted to give a flush not exceeding 9.5 litres; or

(*b*) the replacement of a flushing cistern installed before these Regulations came into operation by a similar cistern.

Installation after 31st December 1992 of cisterns providing flushes of different volumes

78. A cistern designed or adapted to give flushes of different volumes shall not be installed after 31st December 1992 except by way of replacement of such a cistern installed before that date.

Limits of flush in troughs

79. A flushing trough shall not give—

(*a*) a flush exceeding 7.5 litres; or

(*b*) if it is installed before 1st January 1993, a flush exceeding 9.5 litres;

to any one pan.

Requirements for fitting and marking of warning pipes used in connection with flushing cisterns or troughs

80. A flushing cistern or trough supplying water to a soil pan shall be fitted with a warning pipe and shall be indelibly marked on the inside with a

line indicating the water level at which the float-operated valve is to shut off when that cistern or trough operates to comply with the relevant provision of regulations 75 to 77 and 79.

Marking or displaying of operating instructions for flushing cisterns or troughs

81. A flushing cistern or trough designed or adapted to give flushes of different volumes and installed in premises shall have clearly and permanently marked on it or displayed near it instructions for operating it to obtain different flushes.

Supply of water in flushing urinals

82.—(1) A urinal which is cleared by water after use shall be supplied with water from a flushing cistern or flushing trough which incorporates siphonic apparatus and is designed or adapted to supply no more water than is necessary.

(2) A cistern or trough mentioned in paragraph (1) which is installed for use in connection with 2 or more urinal bowls or stalls or 2 or more widths of slab each exceeding 700 mm in width shall not be designed or adapted to fill at a rate exceeding—

(*a*) 7.5 litres per hour; or

(*b*) if it is installed before 25th March 1991, 15 litres per hour;

for any one urinal bowl or stall, or 700 mm width of urinal slab.

(3) A cistern or trough mentioned in paragraph (1) which is installed after 24th March 1991 for use in connection with a single urinal bowl or stall shall not be designed or adapted to fill at a rate exceeding 10 litres per hour.

Pipes supplying water to flush urinals

83.—(1) Subject to paragraph (2), a pipe which supplies water to a flushing cistern or trough used to flush a urinal shall be fitted with—

(*a*) a flow shut-off device controlled by a time switch and a lockable shut-off valve; or

(*b*) some other equally effective automatic device or method for regulating the periods during which the cistern or trough may fill.

(2) Paragraph (1) shall not apply to a flushing cistern or trough which—

(*a*) is manually operated; or

(*b*) fills and flushes by the operation of a device designed to ensure that the cistern flushes only after the urinal is used.

Pipes discharging to soil pans and urinals

84. Only—

(*a*) a flush pipe; or

(*b*) a warning pipe installed to discharge water into the air not less than 150 mm above the top edge of a soil pan;

may deliver water to a soil pan or urinal bowl, stall or slab.

PART X

PREVENTION OF WASTE, MISUSE AND CONTAMINATION OF WATER FROM BATHS, BASINS, SINKS, DRAW-OFF TAPS AND OTHER FITTINGS

Inlets and outlets of baths, wash basins and sinks

85.—(1) Subject to paragraph (2), a bath, wash basin, sink or similar apparatus installed for use in premises shall be—

(*a*) so constructed or arranged that an inlet for water is hydraulically separate from, and unconnected with, a water outlet; and

(*b*) provided with a watertight and readily accessible plug or some other device capable of closing the water outlet.

(2) Paragraph (1)(*b*) shall not apply to—

(*a*) a shower bath or shower tray;

(*b*) apparatus to which water is delivered at a rate not exceeding 3.6 litres per minute or, in the case of a washing trough, 3.6 litres per minute to any unit of it, solely from a fitting designed or adapted for that purpose; or

(*c*) apparatus installed in a hospital or used in a medical, dental or veterinary practice which is designed or adapted for use with an unplugged outlet.

Washing troughs

86. A washing trough which consists of 2 or more units shall be fitted with separate draw-off taps or similar apparatus for each such unit.

Requirements for draw-off taps

87. Without prejudice to regulation 52, a draw-off tap to which water is supplied by the Department shall—

(*a*) be capable of operating effectively at—

(i) water temperature not exceeding 65°C; and

(ii) internal water pressure to which it is likely to be subject;

(*b*) be made and designed so that it may be easily closed to shut off the flow of water;

(*c*) if it incorporates a renewable seal or washer, be made or adapted so that the seal or washer can be readily renewed or replaced;

(*d*) be resistant to corrosion; and

(*e*) be designed when new to withstand without leaking, an internal water pressure 1.5 times that to which it is ordinarily subject.

Water used by clothes-washing and dishwashing machines and tumbler driers

88.—(1) Subject to paragraph (2), a clothes-washing machine, dishwashing machine or tumbler drier shall not be connected to a supply or distributing pipe to which water is supplied by the Department.

(2) Paragraph (1) shall not apply to—

(*a*) a clothes-washing machine which in a complete washing cycle uses not more than 3.6 litres of water per litre of machine drum or tub volume;

(*b*) a clothes-washing machine incorporating a tumbler drier which in a complete washing and drying cycle uses not more than 6.4 litres of water per litre of machine drum volume;

(*c*) a dishwashing machine which in a complete washing cycle uses not more than 7 litres of water per place setting; or

(*d*) a tumbler drier incorporating a water spray which uses not more than 20 litres of water per kilogram of dry load.

PART XI

PREVENTION OF WASTE AND CONTAMINATION OF WATER FROM ANY HOT WATER SYSTEM

Secondary system vent pipes

89. A vent pipe from a secondary system shall not be connected to, or arranged to discharge water into, a combined feed and expansion cistern connected to a primary circuit.

Accommodation of expansion water in cistern-fed systems

90.—(1) An apparatus or cylinder, of the type described in paragraph (2) shall—

(*a*) be capable of accommodating expansion water;

(*b*) be connected to a separate expansion cistern or vessel; or

(*c*) be so arranged that expansion water can pass through a feed pipe to a storage cistern to which that apparatus or cylinder is connected.

(2) Paragraph (1) shall apply to an unvented apparatus or cylinder, which—

(*a*) stores hot water to be drawn off for use; and

(*b*) is supplied with water from a storage cistern.

(3) In this regulation "unvented apparatus" means apparatus which does not have a vent to the atmosphere.

Accommodation of expansion water in systems connected to a supply pipe

91.—(1) An unvented water heater connected to a supply pipe and not being an instantaneous water heater shall—

(*a*) itself be capable of accommodating expansion water;

(*b*) be connected to a separate expansion cistern or vessel; or

(*c*) be installed so that expansion water can be accommodated in the pipework of a secondary system provided that hot water cannot enter a communication pipe or supply pipe to which a cold water draw-off tap is connected.

(2) In this regulation—

"instantaneous water heater" means an appliance in which water is immediately heated as it passes through the appliance;

"unvented water heater" means a water heater which connects hydraulically at atmosphere only at a point of discharge of hot water when a tap or other water fitting is opened at which time the pressure within the water heater may or may not drop significantly, and which is not provided with a vent permanently open to the atmosphere.

Capacity of expansion cisterns, vessels, etc.

92. An expansion cistern or vessel and a cold water combined feed and expansion cistern connected to a primary circuit shall be—

(*a*) able to accommodate expansion water from the primary circuit to which it is connected; and

(*b*) installed so that in ordinary operation the water level is not less than 25 mm below the overflowing level of the warning pipe connected to it.

Boilers

93. A boiler shall be constructed of materials the nature, strength and thickness of which are capable of withstanding the internal water pressure and operating temperature to which it is, or is likely to be, subject.

Pressure relief valves, expansion valves, temperature relief valves, etc.

94.—(1) A pressure relief valve, expansion valve, temperature relief valve or combined temperature and pressure relief valve connected to a boiler, hot water cylinder, storage tank or pipe shall—

(*a*) close automatically after discharging water;

(*b*) be watertight when closed;

(*c*) be resistant to corrosion;

(*d*) be constructed and installed so that the discharge of water from the valve (or from a pipe connected to it) is readily visible; and

(*e*) except in the case of a temperature relief valve or the temperature function of a combined temperature and pressure relief valve, discharge water only when it is subject to water pressure 0.5 bar above the water pressure to which the boiler or other apparatus is, or is likely to be, subject.

(2) In this regulation—

"expansion valve" means a pressure actuated valve which opens automatically at a specified set pressure to discharge water in order to prevent pressure in a water heater from exceeding a pre-determined safe margin over the maximum working pressure when the means provided to accomodate expansion fail to operate;

"maximum working pressure" means the maximum pressure at which the water heater is designed to work;

"pressure relief valve" means a pressure actuated valve which opens automatically at a specified set pressure to discharge water in order to prevent pressure in a water heater from exceeding a pre-determined safe margin over the maximum working pressure when temperature controls fail to operate.

Unvented hot water cylinders or storage tanks fitted with non-mechanical safety devices

95.—(1) An unvented hot water cylinder or storage tank which is supplied with water by the Department (whether or not by means of a storage cistern) and which is fitted with a non-mechanical safety device shall be fitted with a temperature relief valve which—

(*a*) operates or is designed to operate at a temperature not less than 5°C below that at which that safety device operates or is designed to operate;

(*b*) closes automatically after discharging water; and

(*c*) is watertight when closed.

(2) In this regulation "unvented hot water cylinder or storage tank" means a cylinder or storage tank which does not have a vent to atmosphere and in which water is heated and stored.

PART XII

TAPS FOR DRAWING DRINKING WATER

Taps for drawing drinking water

96.—(1) In premises to which this regulation applies, a draw-off tap convenient for drawing drinking water shall be connected to—

(*a*) a service pipe;

(*b*) a pump delivery pipe drawing water from a service pipe; or

(*c*) a distributing pipe drawing water exclusively from a storage cistern which is—

(i) installed in pursuance of regulation 30; and

(ii) supplied with water from a service pipe or a pump delivery pipe drawing water from a service pipe.

(2) This regulation applies to premises to which the Department supplies water for domestic purposes, not being premises to which section 56 of the Factories Act (Northern Ireland) 1965(**a**) or section 11 of the Office and Shop Premises Act (Northern Ireland) 1966(**b**) apply.

(**a**) 1965 c. 20 (N.I.)
(**b**) 1966 c. 26 (N.I.)

PART XIII

NOTICES TO THE DEPARTMENT

Notice for the installation of fittings generally

97.—(1) A person who, in respect of premises to which water is supplied by the Department, proposes to carry out relevant work mentioned in paragraph (2) shall give written notice to the Department not less than 5 days before he commences that work.

(2) "Relevant work" for the purpose of paragraph (1) means the installation or alteration (other than by repair or renewal) of a—

(*a*) bidet;

(*b*) flushing cistern;

(*c*) hose union tap or tap to which a hose may be connected; or

(*d*) water fitting which, if a backflow or backsiphonage of water through it were to occur, may contaminate water supplied by the Department.

(3) For the purpose of paragraph (1) and regulation 98 the notice to the Department shall specify the date on which it is proposed to begin work, the location, the method of installation and the nature, number and size of water fittings to be installed or altered, and in calculating 5 days no account shall be taken of a Saturday, Sunday or public holiday.

(4) In the event of work referred to in paragraph (1) and regulation 98 requiring to be executed as emergency work a person may begin the work without giving the notice specified but as soon as is reasonably practicable after beginning the work shall give written notice to the Department stating the reason for having done so.

(5) In this regulation—

"emergency work" means work required to put an end to or to prevent danger to persons or property or waste, misuse or contamination of water supplied by the Department;

"hose union tap" means a tap, the nozzle of which has a male thread for the attachment of a hose union.

Notice for the installation of pipes

98. A person who, in respect of a pipe which conveys, or is intended to convey, water supplied by the Department, proposes to—

(*a*) backfill an excavation in which it is laid;

(*b*) thread it through a duct which enters a building below ground level;

(*c*) embed it in a solid floor or wall; or

(*d*) lay it underground by means of a mole plough or similar apparatus;

shall give written notice to the Department not less than 5 days before he commences that work.

PART XIV

PENALTIES AND REVOCATION

Penalties

99. A person contravening any of these Regulations shall be guilty of an offence and shall be liable on summary conviction to a fine not exceeding £400.

Revocation

100. The Water Regulations (Northern Ireland) 1974(**a**) are hereby revoked.

Sealed with the Official Seal of the Department of the Environment on 18th February 1991.

(L.S.) *Harold Carson*
Assistant Secretary

(**a**) S.R. 1974 No. 143

SCHEDULE 1 Regulation 11

Air Gaps in Relation to Pipes

1 *Bore of pipe or outlet*	2 *Vertical distance of point of outlet above spill-over level*
1. not exceeding 14 mm	20 mm
2. exceeding 14 mm but not exceeding 21 mm	25 mm
3. exceeding 21 mm but not exceeding 41 mm	70 mm
4. exceeding 41 mm	twice the bore of the outlet.

SCHEDULE 2 Regulations 16, 17 and 20

Air Gaps in Relation to Taps and Combination Fittings

1 *Size of tap, or combination fitting*	2 *Vertical distance of point of outlet above spill-over level*
1. not exceeding ½ inch	20 mm
2. exceeding ½ inch but not exceeding ¾ inch	25 mm
3. exceeding ¾ inch	70 mm

In this Schedule "combination fitting" means a hot and cold water tap coupled together with a common nozzle which may either be fixed or swivelling, so as to discharge hot, cold or mixed hot and cold water.

EXPLANATORY NOTE

(This note is not part of the Regulations.)

These Regulations, which replace the Water Regulations (Northern Ireland) 1974, lay down standards for water pipes, fittings and apparatus using water in order to prevent waste, misuse or contamination of water supplied by the Department of the Environment ("the Department").

The Regulations make provision—

(*a*) to prevent contamination of water from contact with unsuitable materials or substances (regulations 5 to 10);

(*b*) to prevent contamination of water by backsiphonage, backflow or cross connection (regulations 11 to 29);

(*c*) to prevent waste and contamination of stored water (regulations 30 to 47);

(*d*) to prevent waste of water from damage to water fittings (as defined in the Water and Sewerage Services (Northern Ireland) Order 1973) from causes other than corrosion (regulations 48 to 50);

(*e*) to prevent waste from, and contamination by, unsuitable or improperly installed water fittings (regulations 51 to 60);

(*f*) for the requirements for stopvalves, draining taps, servicing valves and backflow prevention devices (regulations 61 to 73);

(*g*) for the requirements for water closets and urinals (regulations 74 to 84);

(*h*) to prevent waste, misuse and contamination of water from baths, basins, sinks, draw-off taps and other fittings (regulations 85 to 88);

(*i*) to prevent waste and contamination of water from a hot water system (regulations 89 to 95);

(*j*) for the requirements for taps for drawing drinking water (regulation 96);

(*k*) for notices to the Department by a person proposing to carry out certain works (regulations 97 and 98);

(*l*) for penalties in relation to contravention of the Regulations. Offences against the Regulations are punishable on summary conviction by a fine not exceeding £400 (regulation 99).

The Regulations make the following changes of substance—

(i) The installation of lead pipes or fittings by way of repair or replacement is prohibited (regulation 9);

(ii) Provision is made for the prevention of contamination of water by backsiphonage, backflow or cross connection (regulations 11 to 29);

(iii) The requirement in regulation 43 of the Water Regulations (Northern Ireland) 1974 to have a cold water storage cistern in every building has been omitted, except where a clothes-washing machine, dishwashing machine or tumbler drier is connected to

the water system elsewhere than in a domestic dwelling (regulation 22);

(iv) The installation, after 31st December 1992, of a cistern giving a flush exceeding 7.5 litres is prohibited unless the cistern is a replacement for a cistern installed before the Regulations came into operation. The installation, after 31st December 1992, of a cistern providing flushes of different volumes is prohibited except by way of replacement (regulations 75 to 78);

(v) The prohibition in regulation 51 of the Water Regulations (Northern Ireland) 1974 against connecting a service pipe directly to hot water apparatus has been removed. Unvented hot water systems subject to mains pressure are now allowed (regulations 90 to 95) but are subject to regulations P5 and P6 of Part P of the Building Regulations (Northern Ireland) 1990 (S.R. 1990 No. 59).

These Regulations revoke the Water Regulations (Northern Ireland) 1974.