Lught-reill ushtey ellan vannin

Isle of Man Water Authority

Water Supply Byelaws 2002

Fo-Leighaghyn Lioaey-ys Ushtey 2002

Isle of Man Water Authority

lught-reill ushtey ellan vannin

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Contents

EXPLANATORY NOTE

(This note is not part of the Byelaws.)

These Byelaws replace the Water Supply Byelaws 1989, and substantially reproduce the Water Supply (Water Fittings) Regulations 1999 which apply in England and Wales. They make provision for preventing contamination and waste of water supplied by the Isle of Man Water Authority. They do not apply to certain water fittings in connection with water supplied for non-domestic purposes, or to water fittings lawfully installed before the coming into operation of the Byelaws.

Byelaws 1, 2 and 3 and Schedule 1 are introductory.

Byelaws 4 and 5 and Schedule 2 impose general requirements in relation to water fittings. Water fittings must not be installed, connected, arranged or used in such a manner that they are likely to cause waste, misuse, undue consumption or contamination, or erroneous measurements of the water supplied. They must be of an appropriate quality or standard, and be suitable for the circumstances in which they are used; and they must be installed, connected or disconnected in accordance with specified requirements.

Byelaw 6 requires a person who proposes to install certain water fittings to notify the Authority and not to commence installation without the Authority's consent. Byelaw 7 and Schedule 3 provide for the maintenance by the Authority of a list of approved contractors. Byelaw 8 requires a contractor who installs, alters, connects or disconnects a water fitting to provide a certificate that it complies with the Byelaws.

Byelaw 9 makes contravention of the Byelaws an offence.

For the complete text of The Water Supply Byelaws 2002 including citations, reference should be made to Statutory Document No. 222/02 of which this document represents an extract only.

Getting in touch with us

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Useful notes

The Isle of Man Water Authority has a comprehensive collection of leaflets designed to advise its customers on a wide range of issues relating to the Island's water supply. A list of current publications is posted on the Authority's website, www.gov.im/water.

(b) reverse that decision and direct the Authority to enter the appellant in the list.

Inspection of list

7. The list shall be available for inspection at all reasonable times, and any person inspecting the list shall be entitled to make copies of entries in the list on payment of such reasonable fee as the Department may determine.

Made 9th July 2002

Signed

Alex Downie MHK

Minister for Trade and Industry

The Water Act 1991
The Water Supply Byelaws
Approved by Tynwald 9th July
Coming into operation 1st August

In exercise of the powers conferred on the Department of Trade and Industry by section 23 and 42(5) of the Water Act 1991[1], and of all other enabling powers, and after consultation with the Department of Local Government and the Environment, the following Byelaws are hereby made:

1. Citation, commencement and interpretation

(1) These Byelaws may be cited as the Water Supply Byelaws 2002 and, subject to section 42(1) of the Act, shall come into operation on 1/8/02

(2) In these Byelaws -

- "the Act" means the Water Act 1991;
- "the Authority" means the Isle of Man Water Authority;
- "the Department" means the Department of Trade and Industry;
- "the Directive" means Council Directive 89/106/EEC on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products[2];
- "the EEA Agreement" means the agreement on the European Economic Area signed at Oporto on 2nd May 1992[3] as adjusted by the Protocol signed at Brussels on 17th March 1993[4];
- "EEA State" means a state which is a contracting party to the EEA Agreement.;
- "European technical approval" means a favourable technical assessment of the fitness for use of a construction product for an intended us, issued for the purposes of the Directive by a body authorised by a EEA State to issue European technical approvals for those purposes and notified by that State to the European Commission;
- "fluid category" means a category of fluid described in Schedule 1;
- "harmonised standard" means a standard established as mentioned in the Directive by the European standards organisation on the basis of a mandate given by the Commission of the European Economic Community and published by the Commission in the Official Journal of the European Communities;

[1] 1991 c.24

[2] O.J. No.L40, 11.2.89, p.12

[3] Cmnd.2073

[4] Cmnd.2183

(c) method of installation approved by the Authority.

(5) Where the Department approves a specification under this byelaw or Schedule 2, it shall give notice of the approval to the Authority and shall publish it in such manner as the Department considers appropriate.

(6) Where the Authority approves a method of installation under this byelaw, it shall give notice of the approval to the Department and shall publish it in such manner as the Department considers appropriate.

(7) Paragraphs (5) and (6) apply to the revocation or modification of an approval as they apply to an approval.

6. Notification

(1) Subject to paragraph (2), any person who proposes to install a wa[illegible] fitting in connection with any of the operations listed in the following Table

(a) shall give notice to the Authority that he proposes to begin work;

(b) shall not begin that work without the consent of the Authority (which shall not be unreasonably withheld, and may be granted subject to conditions); and

(c) shall comply with any reasonable conditions to which the consent is subject.

1. *The erection of a building or other structure, not being a pond or swimming pool.*
2. *The extension or alteration of a water system on any premises other than a house.*
3. *A material change of use of any premises.*
4. *The installation of -* (a) a bath having a capacity, as measured to the centre line of overflow, of more than 230 litres; (b) a bidet with an ascending spray or flexible hose; (c) a single shower unit (which may consist of one or more shower heads within a single unit), with a water delivery rate exceeding 20 litres per minute, whether or not pumped, not being a drench shower installed for reasons of safety or health, connected directly or indirectly to a supply pipe of a type which conforms to a specification approved for the purpose of this paragraph by the Department; (d) a pump or booster drawing more than 12 litres per minute, connected directly or indirectly to a supply pipe; (e) a unit which incorporates reverse osmosis;

Baths, sinks, showers and taps

26. All premises supplied with water for domestic purposes shall have at least one tap conveniently situated for the drawing of drinking water.

27. A drinking water tap shall be supplied with water from:-

(a) supply pipe;

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

(c) a distributing pipe drawing water exclusively from a storage cistern supplying wholesome water.

28. (1) Subject to paragraph (2), every bath, wash basin, sink or similar appliance shall be provided with a watertight and readily accessible plug or other device capable to closing the waste outlet.

(2) This requirement does not apply to -

(a) an appliance where the only taps provided are spray taps;

(b) a washing trough or wash basin whose waste outlet is incapable of accepting a plug and to which water is delivered at a rate not exceeding 0.06 litres per second exclusively from a fitting designed or adapted for that purpose;

(c) a wash basin or washing trough fitted with self-closing taps;

(d) a shower bath or shower tray;

(e) a drinking water fountain or similar facility; or

(f) an appliance which is used in medical, dental or veterinary premises and is designed or adapted for use with an unplugged outlet.

Washing machines, dishwashers and other appliances

29. (1) Subject to paragraph (2), clothes washing machines, clothes washer-dryers and dishwashers shall be economical in the use of water.

(2) The requirements of this paragraph shall be deemed to be satisfied in the case of machines having a water consumption per cycle not greater that the following -

(a) for domestic horizontal axis washing machines, 27 litres per kilogram of washload for a standard 60C cotton cycle;

(b) for domestic washer-dryers, 48 litres per kilogram of washload for a standard 60C cotton cycle;

(c) for domestic dishwashers, 4.5 litres per place setting.

(j) except in the case of a urinal which is flushed manually, or which is flushed automatically by electronic means after use, every pipe which supplies water to flushing cistern or trough used for flushing a urinal shall be fitted with an isolating valve controlled by a time switch and a lockable isolating valve, or with some other equally effective automatic device for regulating the period during which the cistern may fill.

(2) Every water closet, and every flushing device designed for use with a water closet, shall conform with the terms of a specification approved by the Department for the purpose of this sub-paragraph.

(3) The requirements of sub-paragraphs (1) and (2) do not apply where faeces or urine are disposed of through an appliance that does not solely use fluid to remove the contents.

(4) The requirement in sub-paragraph (1)(i) shall be deemed to be satisfied:

(a) in the case of an automatically operated flushing cistern servicing urinals which is filled with water at a rate not exceeding -

(i) 10 litres per hour for a cistern serving a single urinal;

(ii) 7.5 litres per hour per urinal bowl or stall, or, as the case may be, each 700mm width of urinal slab, for a cistern serving two or more urinals;

(b) in the case of a manually or automatically operated pressure flushing valve used for flushing urinals which delivers not more than 1.5 litres per bowl or position each time the device is operated.

(5) No flushing device installed for use with a WC pan shall give a single flush exceeding 6 litres.

(6) Notwithstanding sub-paragraph (1), a flushing cistern installed before the coming into operation of these Byelaws may be replaced by a cistern which delivers a similar volume and which may be either single flush or dual flush; but a single flush cistern may not be so replaced by a dual flush cistern.

(7) In this paragraph -

- "pressure flushing cistern" means a WC flushing device that utilised the pressure of water within the cistern supply pipe to compress air and increase the pressure of water available for flushing a WC pan;
- "pressure flushing valve" means a self-closing valve supplied with water directly from a supply pipe or a distributing pipe which when activate will discharge a pre-determined flush volume;
- "trap" means a pipe fitting, or part of a sanitary appliance, that retains liquid to prevent the passage of foul air; and
- "warning pipe" means an overflow pipe so fixed that its outlet, whether inside or outside the building , is in a conspicuous position where the discharge of water can be readily seen.

(f) a water treatment unit which produces a waste water discharge or which requires the use of water for regeneration or cleaning,

(g) a reduced pressure zone valve assembly or other mechanical device for protection against a fluid which is in fluid category 4 or 5;

(h) a garden watering system unless designed to be operated by hand; or

(i) any water system laid outside a building and either less than 750mm or more than 1350 below ground level.

5. The construction of a pond or swimming pool with a capacity greater than 10,000 litres which is designed to be replenished by automatic means and is to be filled with water supplied by the Authority.

(2) The notice required by paragraph (1) shall include or be accompanied by:

(a) the name and address of the person giving the notice, and (if different) the name and address of the person on whom notice may be served under paragraph (3);

(b) a description of the proposed work or material change of use;

(c) particulars of the location of the premises to which the proposal relates;

(d) a plan of those parts of the premises to which the proposal relates,

(e) a diagram showing the fitting to be installed and the pipework to which it is to be fitted; and

(f) the name of the person who will carry out the work.

7. List of persons authorised to carry out work

(1) No person shall for reward install, alter or disconnect any water fitting unless he is entered in a list kept by the Authority for the purpose of these Byelaws.

(2) Schedule 3 shall have effect with respect to the entry of persons in and their removal from that list.

(3) Paragraph (1) does shall not prevent an apprentice from doing work referred to that paragraph provided that he is under the direct supervision of a person entered in the list who is working on the same job.

8. Contractor's certificate

Where a person installs, alters or disconnects a water fitting for reward, he shall on completion of the work -

(a) give to the person by whom he was engaged a certificate signed by him and stating whether the fitting complies with the requirements of these Byelaws, and

(b) send a copy of the certificate to the Authority.

9. Contravention of Byelaws, and defences

(1) Subject to the following provisions of this byelaw, a person who contravenes any of the provisions of byelaw 4(1), (2) or (3), 6(1) or 7(1) or 8 is guilty of an offence and liable on summary conviction to a fine not exceeding £1,000.

(2) In any proceedings against an owner or occupier of any land for an offence under paragraph (1) relating to the installation, alteration or disconnection of a water fitting, it shall be a defence for the person accused to show -

(a) that the work in question was carried out by or under the direction of a person entered in the list maintained under byelaw 7, and

(b) that that person gave him a certificate under byelaw 8 relating to the work.

Schedule 1, (Byelaw 11)

FLUID CATEGORIES

Fluid Category 1

Wholesome water supplied by the Authority and complying with the requirements of section 13 of the Act (except water in fluid category 2).

Fluid Category 2

Wholesome water supplied by the Authority and complying with the requirements of section 13 of the Act whose aesthetic quality is impaired owing to -

(a) a change in its temperature, or

(b) the presence of substances or organisms causing a change in its taste, odour or appearance, including water in a hot water distribution system.

Fluid Category 3

Fluid which represents a slight health hazard because of the concentration of substances of low toxicity, including any fluid which contains -

(a) ethylene glycol, copper sulphate solution or similar chemical additive, or

(b) sodium hypochlorite (chloros and common disinfectants).

Fluid Category 4

Fluid which represents a significant health hazard because of the concentration of toxic substances, including any fluid which contains -

(a) chemical, carcinogenic substances or pesticides (including insecticides and herbicides), or

(b) environmental organisms of potential health significance.

WCs, flushing devices and urinals

25. (1) Subject to the following provisions of this paragraph -

(a) every water closet pan shall be supplied with water from a flushing cistern,pressure flushing cistern or pressure flushing valve, and shall be so made and installed that after normal use its contents can be cleared effectively by a single flush of water, or, where the installation is designed to received flushes of different volumes, by the largest of those flushes;

(b) no pressure flushing valve shall be installed -

(i) in a house, or

(ii) in any building not being a house where a minimum flow rate of 1.2 litres per second cannot be achieved at the appliance;

(c) where a pressure flushing valve is connected to a supply pipe or distributing pipe, the flushing arrangement shall incorporate a back flow prevention device consisting of a permanently vented pipe interrupter located not less than 300mm above the spillover level of the WC pan or urinal;

(d) no flushing device installed for use with a WC pan shall give a single flush exceeding 6 litres;

(e) no flushing device designed to give flushes of different volumes shall have a lesser flush exceeding two-thirds of the largest flush volume;

(f) every flushing cistern, other than a pressure flushing cistern shall be clearly marked internally with an indelible line to show the intended volume of flush, together with an indication of that volume;

(g) a flushing device designed to give flushes of different volumes -

(i) shall have a readily discernible method of actuating the flush at different volumes; and

(ii) shall have instructions, clearly and permanently marked on the cistern or displayed nearby, for operating it to obtain the different volumes of flush;

(h) every flushing cistern, not being a pressure flushing cistern or a urinal cistern, shall be fitted with a warning pipe or with a no less effective device:

(i) every urinal that is cleared by water after use shall be supplied with water from a flushing device which -

(i) in the case of a flushing cistern, is filled at a rate suitable for the installation;

(ii) in all cases, is designed or adapted to supply no more water than is necessary for effective flow over the internal surface of the urinal and for replacement of the fluid in the trap; and

20. (1) No vent pipe from a primary circuit shall terminate over a storage cistern containing wholesome water for domestic supply or for supplying water to a secondary system.

(2) No vent pipe from a secondary circuit shall terminate over any combined feed and expansion cistern connected to a primary circuit.

21. Every expansion cistern or expansion vessel, and every cold water combined feed and expansion cistern connected to a primary circuit, shall be such as to accommodate any expansion water from that circuit during normal operation.

22. (1) Every expansion valve, temperature relief valve or combined temperature and pressure relief valve connected to any fitting or appliance shall close automatically after a discharge of water.

(2) Every expansion valve shall -

(a) be fitted on the supply pipe close to the hot water vessel and with out any intervening valves; and

(b) only discharge water when subjected to a water pressure of not less than 0.5 bar (50kPa) above the pressure to which the hot water vessel is, or is likely to be, subjected in normal operation.

23. (1) A temperature relief valve or combined temperature and pressure relief valve shall be provided on every unvented hot water storage vessel with a capacity greater than 15 litres.

(2) The valve shall -

(a) be located directly on the vessel in an appropriate location, and have a sufficient discharge capacity, to ensure that the temperature of the stored water does not exceed 100C; and

(b) only discharge water below its operating temperature when subjected to a pressure of not less than 0.5 bar (50kPa) in excess of the greater of the following -

(i) the maximum working pressure in the vessel in which it is fitted, or

(ii) the operating pressure of the expansion valve.

(3) In this paragraph "unvented hot water storage vessel" means a hot water storage vessel that does not have a vent pipe to the atmosphere.

24. No supply pipe or secondary circuit shall be permanently connected to a closed circuit for filling a heating system unless it incorporates a backflow prevention device which conforms with the terms of a specification by the Department for the purpose of this paragraph.

Fluid Category 5

Fluid which represents a significant health hazard because of the concentration of pathogenic organisms, radioactive or very toxic substances, including any fluid which contains -

(a) faecal material or other human waste;

(b) butchery or other animal waste; or

(c) pathogens from any other source.

Schedule 2, (Byelaw 5 (2)(b))

REQUIREMENTS FOR WATER FITTINGS

Interpretation

1. In this Schedule -

- "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;
- "cistern" means a fixed container for holding water at atmospheric pressure;
- "closed circuit" means any system of pipes and other water fittings through which water circulates but from which no water is drawn for use, and includes any 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;

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

- "distributing pipe" means any 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;
- "double feed indirect cylinder" means an indirect cylinder which has separate cold feed pipe connections for both the primary circuit and the secondary circuit.
- "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;

- "feed cistern" means any storage cistern used for supplying cold water to a hot water apparatus, cylinder or tank;
- "float operated-valve" means a valve, for controlling the flow of water into a cistern, the valve being operated by the vertical movements of a float riding on the surface of the water;
- "flushing cistern" means a cistern provided with a device for discharging the stored water rapidly into a watercloset pan or urinal;
- "flush pipe" means a pipe for conveying water from a flushing cistern to a watercloset pan or urinal;
- "flushing trough" means a flushing apparatus which combines several discharging units in long cistern body to allow more frequent flushing of two or more watercloset pans;
- "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;
- "instantaneous water heater" means an appliance in which water is immediately heated as it passes through the appliance;
- "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 heater mounted inside a hot water storage vessel for the transfer of heat to the stored water from a circulating hot water;
- "secondary circuit" means an assemble of pipes and fittings in which water circulates in distributing pipes to and from a water storage vessel;
- "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;
- "service pipe" means so much of any pipe for supplying water from a main to any premises as is subject to water pressure from that main, or would be so subject but for the closing of some valve;
- "servicing valve" means a valve for shutting off the flow of water in a pipe connected to a water fitting to facilitate the maintenance of 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 waters, so designed that the formation of an air seal during filling prevents mixing and accommodates expansion of the primary water;

Cold water services

16. (1) Every pipe supplying water connected to a storage cistern shall be fitted with an effective adjustable valve capable to shutting off the inflow of water at a suitable level below the overflowing level of the cistern.

(2) Every inlet to a storage cistern, combines feed and expansion cistern, WC flushing cistern or urinal flushing cistern shall be fitted with a servicing valve on the inlet pipe adjacent to the cistern.

(3) Every storage cistern, except one supplying water to the primary circuit of a heating system, shall be fitted with a servicing valve on the outlet pipe.

(4) Every storage cistern shall be fitted with -

(a) an overflow pipe, with a suitable means of warning of an impending overflow, which excludes insects;

(b) a cover positioned so as to exclude light and insects; and

(c) thermal insulation to minimise freezing or undue warming.

(5) Every storage cistern shall be so installed as to minimise the risk of contamination of stored water. The cistern shall be of an appropriate size, and the pipe connections to the cistern shall be so positioned, as to allow free circulation and to prevent areas of stagnant water from developing.

Hot water services

17. (1) Every unvented water heater, not being an instantaneous water heater with a capacity not greater that 15 litres, or storage vessel and every secondary coil contained in a heater primary system shall -

(a) be fitted with a temperature control device and either temperature relief valve or a combined temperature pressure and relief valve; or

(b) be capable to accommodating expansion within the secondary hot water system.

(2) An expansion valve shall be fitted with provision to ensure that water is discharged in a correct manner in the event of a malfunction of the expansion vessel or system.

18. Appropriate vent pipes, temperature control devices and combined temperature pressure and relief valves shall be provided to prevent the temperature of the water within a secondary hot water system from exceeding 100C.

19. Discharges from temperature relief valves, combined temperature pressure and relief valves and expansion valves shall be made in a safe and conspicuous manner.

13. Every water system shall be tested, flushed and where necessary disinfected before it is first used.

Prevention of cross-contamination by unwholesome water

14. (1) Any water fitting conveying:-

(a) rain water, recycled water or any fluid other than water supplied by the Authority; or

(b) any fluid that is not wholesome water;

shall be clearly identified so as to be easily distinguished from any supply pipe or distributing pipe.

(2) No supply pipe, distributing pipe or pump shall convey, or be connected so that it can convey, any fluid falling within sub-paragraph (1), unless a device for preventing backflow is installed in accordance w[illegible] paragraph 15.

Backflow diversion

15. (1) Subject to the following provisions of this paragraph, every water system shall contain an adequate device or devices for preventing backflow of fluid from any appliance, fitting or process from occurring.

(2) Sub-paragraph (1) does not apply to -

(a) a water heater where the expanded water is permitted to flow back into a supply pipe, or

(b) a vented water storage vessel supplied from a storage cistern where the temperature of the water in the supply pipe or the cistern does not exceed 25C

(3) The device used to prevent backflow shall be appropriate to the highest applicable fluid category to which the fitting is subject downstream before the next such device.

(4) Backflow prevention shall be provided on any supply pipe or distributing pipe -

(a) where it is necessary to prevent backflow between separ[illegible]y occupied premises, or

(b) where the Authority has given notice for the purposes of this Schedule that such prevention is needed for the whole or part of any premises.

(5) A backflow prevention device is adequate for the purposes or paragraph (1) if it conforms with the terms of a specification approved by the Department for the purpose of this sub-paragraph.

- "spill-over level" means the level at which the water in a cistern or vessel will first spill over if the flow exceeds the outflow through any outlet and any overflow pipe;
- "stopvalve" means a valve, other that a servicing valve, fitted in a pipeline for controlling or stopping at will, the flow of water;
- "unvented primary circuit" means a primary circuit which is not provided with a vent pipe;
- "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 the building , is in a conspicuous position where the discharge of water can be readily seen;
- "washing trough" means a wash basin, wash trough or sink measuring internally 1.2m over its longest or widest part, at which two or more persons can wash at the same time.

Materials and substances in contact with water

2. (1) Subject to sub-paragraph (2), no material or substance, wither alone or in combination with any other material or substance or with the contents of any water fitting of which it forms a part, which causes or is likely to cause contamination of water shall be used in the construction, installation, renewal, repair or replacement of any water fitting which conveys or receives, or may convey or receive, water supplied for domestic or food production purposes.

(2) This requirement does not apply to a water fitting downstream of a terminal fitting supplying wholesome water where -

(a) the use to which the water downstream is put does not requires wholesome water; and

(b) a suitable arrangement or device to prevent backflow is installed.

Requirements for water fittings

3. Every water fitting shall -

(a) be immune to or protected from corrosion by galvanic action or by any other process which is likely to result in contamination or waste of water; and

(b) be constructed of materials of such strength and thickness as to resist damage from any external load, vibration, stress or settlement, pressure surges, or temperature fluctuation to which it is likely to be subjected.

4. Every water fitting shall:-
   (a) be watertight;
   (b) be so constructed and installed as to -
      (i) prevent ingress by contaminants, and
      (ii) inhibit damage by freezing or any other cause;
   (c) be so installed as to minimise the risk of permeation by , or deterioration from contact with, any substance which may cause contamination; and
   (d) be adequately supported.
5. Every water fitting shall be capable of withstanding an internal water pressure not less that 1.5 times the maximum pressure to which that fitting is designed to be subjected in operation.
6. No water fitting shall be installed, connected or used which is likely to have a detrimental effect on the quality or pressure of water in a water main or other pipe of the Authority.
7. (1) No water fitting shall be embedded in any wall or solid floor.
   (2) No fitting which is designed to be operated or maintained, whether manually or electronically, or which consists of a joint, shall be a concealed water fitting.
   (3) Any concealed water fitting or mechanical backflow prevention device, not being a terminal fitting, shall be made of gunmetal, or another material resistant to dezincification
   (4) Any water fitting laid below ground level shall have a depth of cover sufficient to prevent water freezing in the fitting.
   (5) In this paragraph "concealed water fitting" means a water fitting which -
      (a) is installed below ground;
      (b) passes through or under any wall, footing or foundation;
      (c) is enclosed in any chase or duct; or
      (d) is in any other position which is inaccessible or renders access difficult.

Water system design and installation

8. No water fitting shall be installed in such a position, or pass through such surroundings, that it is likely to cause contamination or damage to the material or the fitting or the contamination of water supplied by the Authority.
9. Any pipe supplying cold water for domestic purposes to any tap shall be so installed that, so far as is reasonably practicable, the water is not warmed above 25C.

10. (1) Every supply pipe or distributing pipe providing water to separate premises shall be fitted with a stopvalve conveniently located to enable the supply to those premises to be shut off without shutting off the supply to any other premises.
    (2) Where a supply pipe or distributing pipe provides water in common to two or more premises, it shall be fitted with a stopvalve to which each occupier of those premises has access.
11. Water supply systems shall be capable to being drained down and be fitted with an adequate number of servicing valves and drain taps so as to minimise the discharge of water when water fittings are maintained or replace. A sufficient number of stopvalves shall be installed for isolating parts of the pipework.
12. (1) The water system shall be capable of withstanding an internal water pressure not less than 1½ times the maximum pressure to which the installation or relevant part is designed to be subjected in operation ("the test pressure").
    (2) This requirement shall be deemed to be satisfied -
       (a) in the case of a water system that does not include a pipe made of plastics, where -
          (i) the whole system is subject to the test pressure by pumping, after which the test continues for one hour without further pumping.
          (ii) the pressure in the system is maintained for one hour; and
          (iii) there is no visible leakage throughout the test;
       (b) in any other case, where either of the following tests is satisfied -

TEST A	TEST B
(i) the whole system is subjected to the test pressure by pumping for 30 minutes, after which the test continues for 90 minutes without further pumping;	(i) the whole system is subjected to the test pressure by pumping for 30 minutes, after which the test continues for 150 minutes without further pumping;
(ii) the pressure is reduced to one-third of the test pressure after 30 minutes;	(ii) the drop in pressure is less than 0.6 bar (60kPa) after the following 30 minutes, or 0.8 bar (80kPa) after the following 150 minutes; and
(iii) the pressure does not drop below one third of the test pressure over the following 90 minutes; and	(iii) there is no visible leakage throughout the test.
(iv) there is no visible leakage throughout the test	

Statutory Document No. 222/02

THE WATER ACT 1991

THE WATER SUPPLY BYELAWS 2002

Approved by Tynwald	*9th July 2002*
Coming into operation	*1st August 2002*

In exercise of the powers conferred on the Department of Trade and Industry by section 23 and 42(5) of the Water Act 1991[1], and of all other enabling powers, and after consultation with the Department of Local Government and the Environment, the following Byelaws are hereby made:—

1. Citation, commencement and interpretation

(1) These Byelaws may be cited as the Water Supply Byelaws 2002 and, subject to section 42(1) of the Act, shall come into operation on

(2) In these Byelaws —

"the Act" means the Water Act 1991;

"the Authority" means the Isle of Man Water Authority;

"the Department" means the Department of Trade and Industry;

"the Directive" means Council Directive 89/106/EEC on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products[2];

"the EEA Agreement" means the agreement on the European Economic Area signed at Oporto on 2nd May 1992[3] as adjusted by the Protocol signed at Brussels on 17th March 1993[4];

"EEA State" means a state which is a contracting party to the EEA Agreement.;

"European technical approval" means a favourable technical assessment of the fitness for use of a construction product for an intended us, issued for the purposes of the Directive by a body authorised by a EEA State to issue

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[1] 1991 c.24
[2] O.J. No.L40, 11.2.89, p.12
[3] Cmnd.2073
[4] Cmnd.2183

Price £1.60 Price Band A

European technical approvals for those purposes and notified by that State to the European Commission;

"fluid category" means a category of fluid described in Schedule 1;

"harmonised standard" means a standard established as mentioned in the Directive by the European standards organisation on the basis of a mandate given by the Commission of the European Economic Community and published by the Commission in the Official Journal of the European Communities;

"material change of use" means a change in the purpose for which, or the circumstances in which, premises are used, such that after that change the premises are used (where previously they were not so used) —

(a) as a dwelling;

(b) as an institution;

(c) as a public building, or

(d) for the purpose of the storage or use of substances which if mixed with water result in a fluid which is classified as fluid category 4 or fluid category 5.

2. Application

(1) Subject to the following provisions of this byelaw, these Byelaws apply to any water fitting installed or used, or to be installed or used, in premises to which water is or is to be supplied by the Authority.

(2) These Byelaws do not apply to a water fitting installed or used, or to be installed or used, in connection with water supplied for purposes other than domestic or food production purposes, provided that —

(a) the water is metered;

(b) the supply of the water is for a period not exceeding one month, or with the written consent of the Authority, 3 months, and

(c) no water can return through the meter to any pipe vested in the Authority.

(3) Except for the purposes of paragraph 14 of Schedule 2, these Byelaws do not apply to water fittings which are not connected or to be connected to water supplied by the Authority.

(4) Nothing in these Byelaws requires any person to remove, replace, alter, disconnect or cease to use any water fitting which was lawfully installed or used before the coming into operation of these Byelaws.

3. Revocation

The Water Supply Byelaws 1989[5] are revoked.

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[5] GC 326/89

4. Restriction on installation etc. of water fittings

(1) No person shall:—

(a) install a water fitting to convey or receive water supplied by the Authority, or alter, disconnect or use such a water fitting; or

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

in contravention of byelaw 5.

(2) No person shall install, connect, arrange or use a water fitting in such a manner that it causes or is likely to cause waste, misuse, undue consumption or contamination of water supplied by the Authority.

(3) No person shall —

(a) use a water fitting in such a manner that it causes, or

(b) use a water fitting which by reason of being damaged, worn or otherwise faulty, causes or is likely to cause,

the erroneous measurement of water supplied by the Authority.

(4) In this byelaw "use" excludes use as a water fitting in such a way as constitutes an offence under the Water Act 1991.

5. Requirements for water fittings etc.

(1) Every water fitting shall —

(a) bear an appropriate CE marking in accordance with the Directive; or

(b) conform to —

(i) an appropriate harmonised standard or European technical approval;

(iii) an appropriate British Standard or some other national specification of an EEA State which provides an equivalent level of protection and performance; or

(iii) a specification approved for the purpose of this paragraph by the Department.

(2) Without prejudice to paragraph (1), every water fitting shall —

(a) be suitable for the circumstances in which it is used, and

(b) comply with any relevant requirement of Schedule 2.

(3) Where any requirement of Schedule 2 relates to a water system, every water fitting which forms part of that system shall be fitted or, as the case may be, altered or replaced so as to comply with that requirement.

(4) Every water fitting shall be installed, connected, altered, repaired or disconnected so as to conform to —

(a) an appropriate British Standard, a European technical approval or some other national specification of an EEA State which provides an equivalent level of protection and performance;

(b) a specification approved for the purpose of this paragraph by the Department; or

(c) a method of installation approved by the Authority.

(5) Where the Department approves a specification under this byelaw or Schedule 2, it shall give notice of the approval to the Authority and shall publish it in such manner as the Department considers appropriate.

(6) Where the Authority approves a method of installation under this byelaw, it shall give notice of the approval to the Department and shall publish it in such manner as the Department considers appropriate.

(7) Paragraphs (5) and (6) apply to the revocation or modification of an approval as they apply to an approval.

6. Notification

(1) Subject to paragraph (2), any person who proposes to install a water fitting in connection with any of the operations listed in the following Table —

(a) shall give notice to the Authority that he proposes to begin work;

(b) shall not begin that work without the consent of the Authority (which shall not be unreasonably withheld, and may be granted subject to conditions); and

(c) shall comply with any reasonable conditions to which the consent is subject.

Table

1. The erection of a building or other structure, not being a pond or swimming pool.

2. The extension or alteration of a water system on any premises other than a house.

3. A material change of use of any premises.

4. The installation of —

(a) a bath having a capacity, as measured to the centre line of overflow, of more than 230 litres;

(b) a bidet with an ascending spray or flexible hose;

(c) a single shower unit (which may consist of one or more shower heads within a single unit), with a water delivery rate exceeding 20 litres per minute, whether or not pumped, not being a drench shower installed for reasons of safety or health, connected directly or indirectly to a supply pipe of a type which conforms to a specification approved for the purpose of this paragraph by the Department;

(d) a pump or booster drawing more than 12 litres per minute, connected directly or indirectly to a supply pipe;

(e) a unit which incorporates reverse osmosis;

(f) a water treatment unit which produces a waste water discharge or which requires the use of water for regeneration or cleaning,

(g) a reduced pressure zone valve assembly or other mechanical device for protection against a fluid which is in fluid category 4 or 5;

(h) a garden watering system unless designed to be operated by hand; or

(i) any water system laid outside a building and either less than 750mm or more than 1350 below ground level.

5. The construction of a pond or swimming pool with a capacity greater than 10,000 litres which is designed to be replenished by automatic means and is to be filled with water supplied by the Authority.

(2) The notice required by paragraph (1) shall include or be accompanied by —

(a) the name and address of the person giving the notice, and (if different) the name and address of the person on whom notice may be served under paragraph (3);

(b) a description of the proposed work or material change of use;

(c) particulars of the location of the premises to which the proposal relates;

(d) a plan of those parts of the premises to which the proposal relates,

(e) a diagram showing the fitting to be installed and the pipework to which it is to be fitted; and

(f) the name of the person who will carry out the work.

7. List of persons authorised to carry out work

(1) No person shall for reward install, alter or disconnect any water fitting unless he is entered in a list kept by the Authority for the purpose of these Byelaws.

(2) Schedule 3 shall have effect with respect to the entry of persons in and their removal from that list.

(3) Paragraph (1) does shall not prevent an apprentice from doing work referred to that paragraph provided that he is under the direct supervision of a person entered in the list who is working on the same job.

8. Contractor's certificate

Where a person installs, alters or disconnects a water fitting for reward, he shall on completion of the work —

(a) give to the person by whom he was engaged a certificate signed by him and stating whether the fitting complies with the requirements of these Byelaws, and

(b) send a copy of the certificate to the Authority.

9. Contravention of Byelaws, and defences

(1) Subject to the following provisions of this byelaw, a person who contravenes any of the provisions of byelaw 4(1), (2) or (3), 6(1), 7(1) or 8 is guilty of an offence and liable on summary conviction to a fine not exceeding £1,000.

(2) In any proceedings against an owner or occupier of any land for an offence under paragraph (1) relating to the installation, alteration or disconnection of a water fitting, it shall be a defence for the person accused to show —

(a) that the work in question was carried out by or under the direction of a person entered in the list maintained under byelaw 7, and

(b) that that person gave him a certificate under byelaw 8 relating to the work.

SCHEDULE 1

FLUID CATEGORIES

Fluid Category 1

Wholesome water supplied by the Authority and complying with the requirements of section 13 of the Act (except water in fluid category 2).

Fluid Category 2

Wholesome water supplied by the Authority and complying with the requirements of section 13 of the Act whose aesthetic quality is impaired owing to —

(a) a change in its temperature, or

(b) the presence of substances or organisms causing a change in its taste, odour or appearance,

including water in a hot water distribution system.

Fluid Category 3

Fluid which represents a slight health hazard because of the concentration of substances of low toxicity, including any fluid which contains —

(a) ethylene glycol, copper sulphate solution or similar chemical additive, or

(b) sodium hypochlorite (chloros and common disinfectants).

Fluid Category 4

Fluid which represents a significant health hazard because of the concentration of toxic substances, including any fluid which contains —

(a) chemical, carcinogenic substances or pesticides (including insecticides and herbicides), or

(b) environmental organisms of potential health significance.

Fluid Category 5

Fluid which represents a significant health hazard because of the concentration of pathogenic organisms, radioactive or very toxic substances, including any fluid which contains —

(a) faecal material or other human waste;

(b) butchery or other animal waste; or

(c) pathogens from any other source.

Byelaw 5(2)(b)

SCHEDULE 2

REQUIREMENTS FOR WATER FITTINGS

Interpretation

1. In this Schedule —

"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;

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

"closed circuit" means any system of pipes and other water fittings through which water circulates but from which no water is drawn for use, and includes any 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;

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

"distributing pipe" means any 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;

"double feed indirect cylinder" means an indirect cylinder which has separate cold feed pipe connections for both the primary circuit and the secondary circuit.

"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;

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

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

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

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

"flushing trough" means a flushing apparatus which combines several discharging units in long cistern body to allow more frequent flushing of two or more watercloset pans;

"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;

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

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

"secondary circuit" means an assemble of pipes and fittings in which water circulates in distributing pipes to and from a water storage vessel;

"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;

"service pipe" means so much of any pipe for supplying water from a main to any premises as is subject to water pressure from that main, or would be so subject but for the closing of some valve;

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

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

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

"unvented primary circuit" means a primary circuit which is not provided with a vent pipe;

"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 the building, is in a conspicuous position where the discharge of water can be readily seen;

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

Materials and substances in contact with water

2. (1) Subject to sub-paragraph (2), no material or substance, whether alone or in combination with any other material or substance or with the contents of any water fitting of which it forms a part, which causes or is likely to cause contamination of water shall be used in the construction, installation, renewal, repair or replacement of any water fitting which conveys or receives, or may convey or receive, water supplied for domestic or food production purposes.

(2) This requirement does not apply to a water fitting downstream of a terminal fitting supplying wholesome water where —

(a) the use to which the water downstream is put does not requires wholesome water; and

(b) a suitable arrangement or device to prevent backflow is installed.

Requirements for water fittings

3. Every water fitting shall —

(a) be immune to or protected from corrosion by galvanic action or by any other process which is likely to result in contamination or waste of water; and

(b) be constructed of materials of such strength and thickness as to resist damage from any external load, vibration, stress or settlement, pressure surges, or temperature fluctuation to which it is likely to be subjected.

4. Every water fitting shall:—

(a) be watertight;

(b) be so constructed and installed as to —

(i) prevent ingress by contaminants, and

(ii) inhibit damage by freezing or any other cause;

(c) be so installed as to minimise the risk of permeation by , or deterioration from contact with, any substance which may cause contamination; and

(d) be adequately supported.

5. Every water fitting shall be capable of withstanding an internal water pressure not less than 1.5 times the maximum pressure to which that fitting is designed to be subjected in operation.

6. No water fitting shall be installed, connected or used which is likely to have a detrimental effect on the quality or pressure of water in a water main or other pipe of the Authority.

7. (1) No water fitting shall be embedded in any wall or solid floor.

(2) No fitting which is designed to be operated or maintained, whether manually or electronically, or which consists of a joint, shall be a concealed water fitting.

(3) Any concealed water fitting or mechanical backflow prevention device, not being a terminal fitting, shall be made of gunmetal, or another material resistant to dezincification

(4) Any water fitting laid below ground level shall have a depth of cover sufficient to prevent water freezing in the fitting.

(5) In this paragraph "concealed water fitting" means a water fitting which —

(a) is installed below ground;

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

(c) is enclosed in any chase or duct; or

(d) is in any other position which is inaccessible or renders access difficult.

Water system design and installation

8. No water fitting shall be installed in such a position, or pass through such surroundings, that it is likely to cause contamination or damage to the material or the fitting or the contamination of water supplied by the Authority.

9. Any pipe supplying cold water for domestic purposes to any tap shall be so installed that, so far as is reasonably practicable, the water is not warmed above 25°C.

10. (1) Every supply pipe or distributing pipe providing water to separate premises shall be fitted with a stopvalve conveniently located to enable the supply to those premises to be shut off without shutting off the supply to any other premises.

(2) Where a supply pipe or distributing pipe provides water in common to two or more premises, it shall be fitted with a stopvalve to which each occupier of those premises has access.

11. Water supply systems shall be capable to being drained down and be fitted with an adequate number of servicing valves and drain taps so as to minimise the discharge of water when water fittings are maintained or replace. A sufficient number of stopvalves shall be installed for isolating parts of the pipework.

12. (1) The water system shall be capable of withstanding an internal water pressure not less than 1½ times the maximum pressure to which the installation or relevant part is designed to be subjected in operation ("the test pressure").

(2) This requirement shall be deemed to be satisfied —

(a) in the case of a water system that does not include a pipe made of plastics, where —

(i) the whole system is subject to the test pressure by pumping, after which the test continues for one hour without further pumping.

(ii) the pressure in the system is maintained for one hour; and

(iii) there is no visible leakage throughout the test;

(b) in any other case, where either of the following tests is satisfied —

TEST A	TEST B
(i) the whole system is subjected	(i) the whole system is subjected

to the test pressure by pumping for 30 minutes, after which the test continues for 90 minutes without further pumping;	to the test pressure by pumping for 30 minutes, after which the test continues for 150 minutes without further pumping;
(ii) the pressure is reduced to one-third of the test pressure after 30 minutes;	(ii) the drop in pressure is less than 0.6 bar (60kPa) after the following 30 minutes, or 0.8 bar (80kPa) after the following 150 minutes; and
(iii) the pressure does not drop below one third of the test pressure over the following 90 minutes; and	(iii) there is no visible leakage throughout the test.
(iv) there is no visible leakage throughout the test.	

13. Every water system shall be tested, flushed and where necessary disinfected before it is first used.

Prevention of cross-contamination by unwholesome water

14. (1) Any water fitting conveying:—

(a) rain water, recycled water or any fluid other than water supplied by the Authority; or

(b) any fluid that is not wholesome water;

shall be clearly identified so as to be easily distinguished from any supply pipe or distributing pipe.

(2) No supply pipe, distributing pipe or pump shall convey, or be connected so that it can convey, any fluid falling within sub-paragraph (1), unless a device for preventing backflow is installed in accordance with paragraph 15.

Backflow prevention

15. (1) Subject to the following provisions of this paragraph, every water system shall contain an adequate device or devices for preventing backflow of fluid from any appliance, fitting or process from occurring.

(2) Sub-paragraph (1) does not apply to —

(a) a water heater where the expanded water is permitted to flow back into a supply pipe, or

(b) a vented water storage vessel supplied from a storage cistern where the temperature of the water in the supply pipe or the cistern does not exceed 25°C

(3) The device used to prevent backflow shall be appropriate to the highest applicable fluid category to which the fitting is subject downstream before the next such device.

(4) Backflow prevention shall be provided on any supply pipe or distributing pipe —

(a) where it is necessary to prevent backflow between separately occupied premises, or

(b) where the Authority has given notice for the purposes of this Schedule that such prevention is needed for the whole or part of any premises.

(5) A backflow prevention device is adequate for the purposes or paragraph (1) if it conforms with the terms of a specification approved by the Department for the purpose of this sub-paragraph.

Cold water services

16. (1) Every pipe supplying water connected to a storage cistern shall be fitted with an effective adjustable valve capable to shutting off the inflow of water at a suitable level below the overflowing level of the cistern.

(2) Every inlet to a storage cistern, combines feed and expansion cistern, WC flushing cistern or urinal flushing cistern shall be fitted with a servicing valve on the inlet pipe adjacent to the cistern.

(3) Every storage cistern, except one supplying water to the primary circuit of a heating system, shall be fitted with a servicing valve on the outlet pipe.

(4) Every storage cistern shall be fitted with —

(a) an overflow pipe, with a suitable means of warning of an impending overflow, which excludes insects;

(b) a cover positioned so as to exclude light and insects; and

(c) thermal insulation to minimise freezing or undue warming.

(5) Every storage cistern shall be so installed as to minimise the risk of contamination of stored water. The cistern shall be of an appropriate size, and the pipe connections to the cistern shall be so positioned, as to allow free circulation and to prevent areas of stagnant water from developing.

Hot water services

17. (1) Every unvented water heater, not being an instantaneous water heater with a capacity not greater that 15 litres, or storage vessel and every secondary coil contained in a heater primary system shall —

(a) be fitted with a temperature control device and either temperature relief valve or a combined temperature pressure and relief valve; or

(b) be capable to accommodating expansion within the secondary hot water system.

(2) An expansion valve shall be fitted with provision to ensure that water is discharged in a correct manner in the event of a malfunction of the expansion vessel or system.

18. Appropriate vent pipes, temperature control devices and combined temperature pressure and relief valves shall be provided to prevent the temperature of the water within a secondary hot water system from exceeding 100°C.

19. Discharges from temperature relief valves, combined temperature pressure and relief valves and expansion valves shall be made in a safe and conspicuous manner.

20. (1) No vent pipe from a primary circuit shall terminate over a storage cistern containing wholesome water for domestic supply or for supplying water to a secondary system.

(2) No vent pipe from a secondary circuit shall terminate over any combined feed and expansion cistern connected to a primary circuit.

21. Every expansion cistern or expansion vessel, and every cold water combined feed and expansion cistern connected to a primary circuit, shall be such as to accommodate any expansion water from that circuit during normal operation.

22. (1) Every expansion valve, temperature relief valve or combined temperature and pressure relief valve connected to any fitting or appliance shall close automatically after a discharge of water.

(2) Every expansion valve shall —

(a) be fitted on the supply pipe close to the hot water vessel and without any intervening valves; and

(b) only discharge water when subjected to a water pressure of not less than 0.5 bar (50kPa) above the pressure to which the hot water vessel is, or is likely to be, subjected in normal operation.

23. (1) A temperature relief valve or combined temperature and pressure relief valve shall be provided on every unvented hot water storage vessel with a capacity greater than 15 litres.

(2) The valve shall —

(a) be located directly on the vessel in an appropriate location, and have a sufficient discharge capacity, to ensure that the temperature of the stored water does not exceed 100°C; and

(b) only discharge water below its operating temperature when subjected to a pressure of not less than 0.5 bar (50kPa) in excess of the greater of the following —

(i) the maximum working pressure in the vessel in which it is fitted, or

(ii) the operating pressure of the expansion valve.

(3) In this paragraph "unvented hot water storage vessel" means a hot water storage vessel that does not have a vent pipe to the atmosphere.

24. No supply pipe or secondary circuit shall be permanently connected to a closed circuit for filling a heating system unless it incorporates a backflow prevention device which conforms with the terms of a specification by the Department for the purpose of this paragraph.

WCs, flushing devices and urinals

25. (1) Subject to the following provisions of this paragraph —

(a) every water closet pan shall be supplied with water from a flushing cistern, pressure flushing cistern or pressure flushing valve, and shall be so made and installed that after normal use its contents can be cleared effectively by a single flush of water, or, where the installation is designed to received flushes of different volumes, by the largest of those flushes;

(b) no pressure flushing valve shall be installed —

(i) in a house, or

(ii) in any building not being a house where a minimum flow rate of 1.2 litres per second cannot be achieved at the appliance;

(c) where a pressure flushing valve is connected to a supply pipe or distributing pipe, the flushing arrangement shall incorporate a backflow prevention device consisting of a permanently vented pipe interrupter located not less than 300mm above the spillover level of the WC pan or urinal;

(d) no flushing device installed for use with a WC pan shall give a single flush exceeding 6 litres;

(e) no flushing device designed to give flushes of different volumes shall have a lesser flush exceeding two-thirds of the largest flush volume;

(f) every flushing cistern, other than a pressure flushing cistern shall be clearly marked internally with an indelible line to show the intended volume of flush, together with an indication of that volume;

(g) a flushing device designed to give flushes of different volumes —

(i) shall have a readily discernible method of actuating the flush at different volumes; and

(ii) shall have instructions, clearly and permanently marked on the cistern or displayed nearby, for operating it to obtain the different volumes of flush;

(h) every flushing cistern, not being a pressure flushing cistern or a urinal cistern, shall be fitted with a warning pipe or with a no less effective device;

(i) every urinal that is cleared by water after use shall be supplied with water from a flushing device which —

(i) in the case of a flushing cistern, is filled at a rate suitable for the installation; —

(ii) in all cases, is designed or adapted to supply no more water than is necessary for effective flow over the internal surface of the urinal and for replacement of the fluid in the trap; and

(j) except in the case of a urinal which is flushed manually, or which is flushed automatically by electronic means after use, every pipe which supplies water to a flushing cistern or trough used for flushing a urinal shall be fitted with an isolating valve controlled by a time switch and a lockable isolating valve, or with some other

equally effective automatic device for regulating the period during which the cistern may fill.

(2) Every water closet, and every flushing device designed for use with a water closet, shall conform with the terms of a specification approved by the Department for the purpose of this sub-paragraph.

(3) The requirements of sub-paragraphs (1) and (2) do not apply where faeces or urine are disposed of through an appliance that does not solely use fluid to remove the contents.

(4) The requirement in sub-paragraph (1)(i) shall be deemed to be satisfied —

(a) in the case of an automatically operated flushing cistern servicing urinals which is filled with water at a rate not exceeding —

(i) 10 litres per hour for a cistern serving a single urinal;

(ii) 7.5 litres per hour per urinal bowl or stall, or, as the case may be, for each 700mm width of urinal slab, for a cistern serving two or more urinals;

(b) in the case of a manually or automatically operated pressure flushing valve used for flushing urinals which delivers not more than 1.5 litres per bowl or position each time the device is operated.

(5) No flushing device installed for use with a WC pan shall give a single flush exceeding 6 litres.

(6) Notwithstanding sub-paragraph (1), a flushing cistern installed before the coming into operation of these Byelaws may be replaced by a cistern which delivers a similar volume and which may be either single flush or dual flush; but a single flush cistern may not be so replaced by a dual flush cistern.

(7) In this paragraph —

"pressure flushing cistern" means a WC flushing device that utilised the pressure of water within the cistern supply pipe to compress air and increase the pressure of water available for flushing a WC pan;

"pressure flushing valve" means a self-closing valve supplied with water directly from a supply pipe or a distributing pipe which when activate will discharge a pre-determined flush volume;

"trap" means a pipe fitting, or part of a sanitary appliance, that retains liquid to prevent the passage of foul air; and

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

Baths, sinks, showers and taps

26. All premises supplied with water for domestic purposes shall have at least one tap conveniently situated for the drawing of drinking water.

27. A drinking water tap shall be supplied with water from:—

(a) a supply pipe;

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

(c) a distributing pipe drawing water exclusively from a storage cistern supplying wholesome water.

28. (1) Subject to paragraph (2), every bath, wash basin, sink or similar appliance shall be provided with a watertight and readily accessible plug or other device capable to closing the waste outlet.

(2) This requirement does not apply to —

(a) an appliance where the only taps provided are spray taps;

(b) a washing trough or wash basin whose waste outlet is incapable of accepting a plug and to which water is delivered at a rate not exceeding 0.06 litres per second exclusively from a fitting designed or adapted for that purpose;

(c) a wash basin or washing trough fitted with self-closing taps;

(d) a shower bath or shower tray;

(e) a drinking water fountain or similar facility; or

(f) an appliance which is used in medical, dental or veterinary premises and is designed or adapted for use with an unplugged outlet.

Washing machines, dishwashers and other appliances

29. (1) Subject to paragraph (2), clothes washing machines, clothes washer-dryers and dishwashers shall be economical in the use of water.

(2) The requirements of this paragraph shall be deemed to be satisfied in the case of machines having a water consumption per cycle not greater that the following —

(a) for domestic horizontal axis washing machines, 27 litres per kilogram of washload for a standard 60°C cotton cycle;

(b) for domestic washer-dryers, 48 litres per kilogram of washload for a standard 60°C cotton cycle;

(c) for domestic dishwashers, 4.5 litres per place setting.

Water for outside use

30. Every pipe which conveys water to a drinking vessel for animals or poultry shall be fitted with —

(a) a float-operated valve, or some other no less effective device to control the inflow of water, which is —

(i) protected from damage and contamination; and

(ii) prevents contamination of the water supply; and

(b) a stopvalve or servicing valve as appropriate.

31. Every pond, fountain or pool shall have an impervious lining or membrane to prevent the leakage or seepage of water.

Byelaw 7(2).

SCHEDULE 3

LIST OF PERSONS AUTHORISED TO CARRY OUT WORK TO WATER FITTINGS

Interpretation

1. In this Schedule —

"the list" means the list maintained by the Authority under byelaw 7;

"notice" means a notice in writing.

Application for entry in list

2. An application for entry in the list shall be made in writing to the Authority and shall be accompanied by such information as the Department may reasonably require.

Determination of application

3. (1) Subject to sub-paragraph (2), on receiving an application for entry in the list the Authority shall enter the applicant in the list and give him notice that it has done so.

(2) The Authority may refuse to enter the applicant in the list if —

(a) it is not satisfied, having regard to his training and experience, that he is sufficiently competent to carry out work in compliance with these Byelaws;

(b) he has been convicted of an offence under these Byelaws;

(c) it is satisfied that he has persistently failed to comply with these Byelaws; or

(d) he has been removed from the list under paragraph 4(1)(a), (b) or (c)

Cancellation of entry

4. The Authority may remove any person from the list if —

(a) it is satisfied that he is not sufficiently competent to carry out work in compliance with these Byelaws;

(b) he has been convicted of an offence under these Byelaws;

(c) it is satisfied that he has persistently failed to comply with these Byelaws;

(d) he requests that he be removed from the list; or

(e) he is dead or has ceased to reside in the Island.

Notice of decisions

5. (1) Where the Authority proposes to refuse an application under paragraph 3, it shall give the applicant notice of its intention to do so.

(2) The Authority shall give any person who is entered in the list notice of a proposal to remove him from the list under paragraph 4(a), (b) or (c).

(3) A notice under this paragraph shall —

(a) give the Authority's reasons for its proposal; and

(b) state that within such period as may be specified in the notice (not being less than 21 days beginning with the date of service of the notice) the person on whom it is served may make objections or representations in writing to the Authority concerning the proposal.

(4) In relation to any proposal mentioned in sub-paragraph (1) or (2) the Authority —

(a) shall not make a decision on the proposal before the expiration of the period specified under sub-paragraph (3)(c): and

(b) shall before making such a decision consider any objections or representations made in accordance with the notice.

(5) If the Authority decides to adopt a proposal mentioned in sub-paragraph (1) or (2), it shall give notice of its decision to the applicant or person.

Appeal to Department

6. (1) A person whose application for entry in the list has been refused, or who has been removed from the list under paragraph 4(a), (b) or (c), may appeal to the Department.

(2) An appeal under this paragraph shall be brought by notice to the Department, specifying the decision appealed against and stating the grounds of appeal, not later than 28 days after notice of the decision is given.

(3) On an appeal under this paragraph the Department may —

(a) confirm the decision of the Authority; or

(b) reverse that decision and direct the Authority to enter the appellant in the list.

Inspection of list

7. The list shall be available for inspection at all reasonable times, and any person inspecting the list shall be entitled to make copies of entries in the list on payment of such reasonable fee as the Department may determine.

MADE 28th May. 2002

Minister for Trade and Industry

EXPLANATORY NOTE

(This note is not part of the Byelaws.)

These Byelaws replace the Water Supply Byelaws 1989, and substantially reproduce the Water Supply (Water Fittings) Regulations 1999 which apply in England and Wales. They make provision for preventing contamination and waste of water supplied by the Isle of Man Water Authority. They do not apply to certain water fittings in connection with water supplied for non-domestic purposes, or to water fittings lawfully installed before the coming into operation of the Byelaws.

Byelaws 1, 2 and 3 and Schedule 1 are introductory.

Byelaws 4 and 5 and Schedule 2 impose general requirements in relation to water fittings. Water fittings must not be installed, connected, arranged or used in such a manner that they are likely to cause waste, misuse, undue consumption or contamination, or erroneous measurements of the water supplied. They must be of an appropriate quality or standard, and be suitable for the circumstances in which they are used; and they must be installed, connected or disconnected in accordance with specified requirements.

Byelaw 6 requires a person who proposes to install certain water fittings to notify the Authority and not to commence installation without the Authority's consent. Byelaw 7 and Schedule 3 provide for the maintenance by the Authority of a list of approved contractors. Byelaw 8 requires a contractor who installs, alters, connects or disconnects a water fitting to provide a certificate that it complies with the Byelaws.

Byelaw 9 makes contravention of the Byelaws an offence.