



Consultation Paper on Amendments to
Waterworks Ordinance (Cap.102)
and
Waterworks Regulations (Cap.102A)

**Construction, etc. of Fire Services and Inside Services and
Updating of Technical Requirements and Pipe and Fitting Standards
for Plumbing Works**

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for Plumbing Works**

INTRODUCTION

This paper invites views from members of the public on a proposal to amend the Waterworks Ordinance (“**WWO**”) (Cap. 102) and the Waterworks Regulations (“**WWR**”) (Cap. 102A) in regard to: (a) the personnel for carrying out the construction, installation, alteration, maintenance, repair or removal (“**construction, etc.**”) of fire services or inside services¹ (“**the Services**”); (b) updating of the technical requirements and pipe and fitting standards for plumbing works; and (c) other related issues.

BACKGROUND

2. The provision and regulation of water supply in Hong Kong is governed by the WWO and WWR. The Water Authority² (“**WA**”) is empowered to enforce various provisions of the WWO and WWR.

3. Since the enactment of the WWO in 1974, there have been a substantial increase in the complexity of plumbing works and changes in the roles and responsibilities of trade personnel, industry practice, and technical requirements and pipe and fitting standards for plumbing works. The Water Supplies Department (“**WSD**”) is now holistically reviewing the WWO and WWR with a view to revamping the legislative framework to, *inter alia*, cope with the changes and long-term development of the trade.

¹ Pursuant to section 2 of the WWO, “fire service” means the pipes and fittings in premises, and any pipes and fittings between the premises and a connection to the main, which are used or intended to be used for a supply solely for the purposes of fire fighting, whereas “inside service” means the pipes and fittings in premises, and any pipes and fittings between the premises and a connection to the main, (other than the pipes and fittings forming part of a fire service) which are used or intended to be used for the purposes of a supply.

² Pursuant to section 2 of the WWO, “Water Authority” means the Director of Water Supplies.

4. Moreover, the Commission of Inquiry into Excess Lead Found in Drinking Water³ (“CoI”) in its hearings in late 2015 and subsequently in its report⁴ identified the discrepancy between the industry practice and the language of section 15 of the WWO and the outdated pipe and fitting standards cited in Schedule 2 to the WWR. While WSD is reviewing the WWO and WWR as stated in paragraph 3 above, it is proposed to prioritize amendments to the WWO and WWR to address the above-mentioned issues identified by the CoI, as well as other related issues.

5. The following paragraphs outline the issues to be addressed in the proposed amendments.

(a) Personnel for carrying out plumbing works

6. According to section 15(1)⁵ of the WWO, no construction, etc. of a fire service or inside service (other than alterations or repairs to a fire service or inside service which are, in the opinion of the WA, of a minor nature, or the rewashing of a tap) shall be constructed, installed, maintained, altered, repaired or removed (“**constructed, etc.**”) by a person other than a licensed plumber (“LP”) or a public officer authorized by the WA.

7. Despite the language of section 15(1), it has been the policy intent and industry practice that LPs may be assisted by workers in carrying out the plumbing works. Currently, there are about 3 000 LPs in Hong Kong; the supply of LPs would not be able to meet the anticipated workforce demand⁶ if all the plumbing works can only be carried out by LPs personally. Besides, plumbing works cover a lot of menial or repetitive tasks that can be carried out by other workers working under proper instruction and supervision of an LP.

³ The CoI was appointed by the Chief Executive to inquire into the incidents of excess lead in drinking water in Public Rental Housing estates happened in July 2015.

⁴ The report in redacted form was released on 31 May 2016 and is available at <http://www.coi-drinkingwater.gov.hk/eng/report.html>

⁵ Section 15(1) of the WWO, subject to subsection (2), requires fire services or inside services to be constructed, installed, maintained, altered, repaired or removed by a licensed plumber or a public officer authorized by the WA. Pursuant to section 15(2), alterations or repairs to a fire service or inside service which are, in the opinion of the WA, of a minor nature, or the rewashing of a tap, may be carried out by a person other than a licensed plumber or a public officer authorized by the WA.

⁶ There are about 600 new building projects involving the construction, etc. of the Services every year in Hong Kong. The annual total number of LPs required would be over 10 000 if all the plumbing works can only be carried out by LPs personally. Apart from new building projects, other plumbing works, such as re-plumbing, alteration, maintenance and repair of existing plumbing systems, also generate a significant demand of the plumbing workforce.

8. On the other hand, when section 4 of the Construction Workers Registration Ordinance (“**CWRO**”) (Cap. 583) comes into effect on 1 April 2017, registered skilled or semi-skilled workers for certain designated trade divisions may personally carry out, or instruct and supervise other registered construction workers to carry out, plumbing works on construction sites. Skilled or semi-skilled workers of appropriate designated trade divisions, merely by having registered under the CWRO, will, however, not be able to legitimately carry out, or instruct and supervise other registered construction workers to carry out, the construction etc. of the Services on construction sites pursuant to the current section 15(1) of the WWO.

9. In light of the above, it is **proposed** to make clear the policy intent by amending section 15 of the WWO to include registered skilled or semi-skilled workers of appropriate designated trade divisions and other persons who work under instruction and supervision of an LP, a registered skilled worker or a registered semi-skilled worker to carry out the construction, etc. of the Services.

(b) Obligation of the LP who has sought the permission under section 14(1) of the WWO

10. Section 14(1) of the WWO requires that no person shall, except with the permission in writing of the WA, construct, install, alter or remove a fire service or inside service. The requirement under section 14(1) of the WWO may be waived if the alterations to a fire service or inside service are, in the opinion of the WA, of a minor nature.

11. At present, the WA requires all applications for section 14(1) permissions to be made by LPs. At the time of application, the LP who applies for the permission is required to certify that the pipes and fittings intended to be installed shall be as prescribed by the WWR and to list the pipes and fittings intended to be installed in a specified form⁷. Upon completion of the plumbing works, this LP will certify that the pipes and fittings installed and any materials used for the construction, installation, alteration or removal of the Services comply with the statutory requirements. For this very reason, the LP who has sought a section 14(1) permission takes on a crucial role to ensure compliance of the plumbing works with the requirements in section 14(3).

⁷ Currently, the specified form is Form WWO 46.

12. However, it is not a requirement under the WWO or WWR for a section 14(1) application to be made by LPs, and the WWO does not clearly state the obligation of the LP who sought a section 14(1) permission.

13. In light of the above, it is **proposed** to amend the WWO to require all applications for section 14(1) permissions to be made by LPs. It is also **proposed** to amend the WWO to clearly state that the obligation of the LP, who has sought a section 14(1) permission, is to ensure that the plumbing works covered by that section 14(1) permission are in compliance with the requirements in section 14(3).

(c) Technical requirements and pipe and fitting standards for plumbing works

14. The construction and installation of the Services are required⁸ to comply with the requirements under the WWO and WWR. Most of the technical requirements and pipe and fitting standards governing plumbing works are given in Schedule 2 to the WWR.

15. In addition, regulation 20 of the WWR stipulates that every pipe or fitting shall be of the British Standard (“**BS**”), and BS is defined in regulation 2 of the WWR to mean the latest revised edition of a specification issued by the British Standards Institution.

16. Despite the publication of a list of applicable BS by WSD on its website for reference of the trade, the CoI considers that the outdated technical standards⁹ set out in Schedule 2 to the WWR is unsatisfactory, given that it is an offence under section 14 of the WWO if the construction or installation of the Services or the nature, size and quality of the pipes and fittings is not as prescribed.

17. In this connection, it is **proposed** to update the technical requirements and pipe and fitting standards in Schedule 2 to the WWR, to amend the definition of “BS” to refer to specific versions of the standards, and to include other applicable technical standards in the WWR.

⁸ Section 14(3) of the WWO requires the construction or installation of a fire service or inside service to be carried out in such manner as may be prescribed and the nature, size and quality of pipes and fittings of the fire service or inside service to be as prescribed.

⁹ An “outdated technical standard” means a BS that has already been superseded by another technical standard.

THE PROPOSAL

18. We have sought the views and suggestions from industry stakeholders and relevant professional bodies on the proposal to address the issues mentioned above. Our proposed amendments to the WWO and WWR are outlined in the ensuing paragraphs.

(a) Inclusion of competent and capable persons to carry out plumbing works

19. Registered skilled¹⁰ and semi-skilled workers for plumbing works in designated trade divisions under the CWRO are in possession of the craftsmanship of plumbing works and are qualified¹¹ to carry out plumbing works competently and independently. These registered skilled and semi-skilled workers are also capable of instructing and supervising other persons to carry out plumbing works.

20. In light of the above, it is **proposed** to allow the persons in *Table 1* and *Table 2* to carry out plumbing works for a fire service and an inside service respectively:

Table 1 - Persons to Carry Out the Construction, etc. of a Fire Service
(i) an LP
(ii) a registered skilled worker for the following trade divisions under the CWRO
(a) plumber,
(b) drain and pipe layer (master),
(c) fire service mechanic (master), or
(d) fire service mechanical fitter
(iii) a registered semi-skilled worker for the following trade divisions under the CWRO
(a) plumber, or
(b) fire service mechanical fitter
(iv) a registered skilled worker (provisional) for the following trade divisions under the CWRO

¹⁰ According to Schedule 1 to the CWRO, an LP is qualified to register as a skilled worker for the “plumber” trade division.

¹¹ A person has to satisfy certain qualification requirements under the CWRO in order for him to register as a skilled or semi-skilled worker in the relevant designated trade divisions. The qualification requirements for registration as workers described in (ii), (iii), (iv) and (v) in *Table 1* and *Table 2* are clearly provided for in Schedule 1 to the CWRO.

- (a) plumber,
- (b) drain and pipe layer (master), or
- (c) fire service mechanical fitter
- (v) a registered semi-skilled worker (provisional) for the following trade divisions under the CWRO
 - (a) plumber, or
 - (b) fire service mechanical fitter
- (vi) other persons who work under the instruction and supervision of persons described in (i), (ii) or (iii) above; or
- (vii) a public officer authorized by the WA

Table 2 - Persons to Carry Out the Construction, etc. of an Inside Service
<ul style="list-style-type: none"> (i) an LP (ii) a registered skilled worker for the following trade divisions under the CWRO <ul style="list-style-type: none"> (a) plumber, or (b) drain and pipe layer (master) (iii) a registered semi-skilled worker for the plumber trade division under the CWRO (iv) a registered skilled worker (provisional) for the following trade divisions under the CWRO <ul style="list-style-type: none"> (a) plumber, or (b) drain and pipe layer (master) (v) a registered semi-skilled worker (provisional) for the plumber trade division under the CWRO (vi) other persons who work under the instruction and supervision of persons described in (i), (ii) or (iii) above; or (vii) a public officer authorized by the WA

21. Section 15 of the WWO will also be amended to define “instruction and supervision”. The requirement of “instruction and supervision” is fulfilled if:

- (a) the work is carried out in the supervisor’s presence and at the place where the work is carried out, at his direction and on his behalf; *or*
- (b) if the following conditions are met:
 - (i) the work is carried out on the supervisor’s behalf;
 - (ii) the supervisor specifies the method and manner in which the work

- is to be carried out; *and*
- (iii) the supervisor inspects the carrying out of the work as often as is necessary to ensure that the work is carried out in accordance with the requirements in the WWO and WWR, having regard to the nature of the work, the risks involved in the work and the knowledge and experience of the person carrying out the work.

Question 1

Do you agree that the WWO should be made clear to state that registered skilled and semi-skilled workers for appropriate designated trade divisions under the CWRO are allowed to carry out, and instruct and supervise other persons to construct, etc. the Services?

(b) Defence for “persons who work under instruction and supervision” for non-compliant plumbing works

22. Under section 14(3) of the WWO, a person who constructs or installs a fire service or inside service must carry out the works in such manner as may be prescribed and the nature, size and quality of the pipes and fittings of the fire service or inside service is also required to be as prescribed. Otherwise, he may be liable for contravention of section 14(3) and commits an offence under section 14(4) of the WWO.

23. In relying on the instruction and supervision of an LP, a registered skilled worker or a registered semi-skilled worker mentioned in *Table 1* or *Table 2* above (“**prescribed supervisor(s)**”) to carry out plumbing works, there is a possibility that the “persons who work under instruction and supervision” of a prescribed supervisor may *bona fide* carry out the construction, etc. of the Services in contravention of section 14(3) due to wrongful instruction and supervision. It is therefore **proposed** to provide a statutory defence for a person who works under instruction and supervision of a prescribed supervisor and is charged with an offence under section 14(4), to prove that he has taken reasonable steps and exercised due diligence in carrying out the work.

Question 2

Do you agree that there should be a statutory defence of “reasonable steps and due diligence” for “persons who work under instruction and supervision” of a prescribed supervisor for non-compliant plumbing works ?

(c) ***Prescribed supervisors' obligation and defence for non-compliant plumbing works***

24. A prescribed supervisor who takes on the role of a supervisor to give instruction and supervision to other persons to carry out plumbing works is obliged to ensure the works being carried out are in accordance with section 14(3). In light of this, if a person who works under instruction and supervision of a prescribed supervisor carries out plumbing works in contravention of the requirements in section 14(3), the prescribed supervisor who gives such instruction and supervision should also commit an offence under section 14(4).

25. Nevertheless, the proposed offence is only intended to impose criminal liability on the prescribed supervisor who is responsible for providing proper "instruction and supervision" but failed to do so, rendering the works not in compliance with the requirements in section 14(3). There may, however, be occasions where the prescribed supervisor has duly discharged the duty of "instruction and supervision" but the works still fail to comply with section 14(3) due to reasons out of his control. It is therefore **proposed** to impose the liability on the prescribed supervisor only if there is no reasonable excuse for the works to have been constructed or installed in contravention of section 14(3).

Question 3

- (i) ***Do you agree that a prescribed supervisor who takes on the supervisor's role should be obliged to ensure the works carried out by persons under his instruction and supervision comply with the requirements under section 14(3)?***
- (ii) ***Do you agree that the liability should only be imposed on the prescribed supervisor if he has no reasonable excuse for the non-compliant plumbing works?***

(d) ***Prohibition of persons other than designated persons from being deployed to carry out plumbing works***

26. Section 15(3)¹² of the WWO prohibits the employment or permission of a person other than an LP or a public officer authorized by the WA to carry out the construction, etc. of the Services. It is proposed to further prohibit any intermediary

¹² It is an offence under section 15(3) of the WWO for any person who employs or permits a person other than an LP or a public officer authorized by the WA to construct, etc, a fire service or inside service, except for alterations or repairs to a fire service or inside service which are, in the opinion of the WA, of a minor nature.

personnel, such as foremen or project managers, from deploying or asking a person, other than the designated persons listed in *Table 1* or *Table 2* above (“**designated person(s)**”), to carry out the construction, etc. of the Services.

27. It is **proposed** to amend section 15(3) to hold any person “causing”, in addition to the existing prohibition in respect of “employing” and “permitting”, a person other than a designated person to carry out the construction, etc. of the Services liable of an offence.

28. It is recognized that the existing section 15(3) of the WWO and the proposed amendment to it may impose liability on persons who genuinely believe that the persons they have employed, caused or permitted to construct, etc. the Services are designated persons. Therefore, it is also **proposed** to include a statutory defence for a person, who is charged with the offence under section 15(3) as amended, to prove that he believed, and it was reasonable for him to believe, that the requirement, i.e. the person he employed, caused or permitted to construct, etc. the Services was a designated person, was satisfied.

Question 4

- (i) Do you agree that any person who causes a person, other than a designated person, to construct, etc. of the Services should be liable for an offence?*
- (ii) Do you agree that there should be a statutory defence for a person, who is charged with the offence under section 15(3) as amended, to prove that he believed, and it was reasonable for him to believe that the person he employed, caused or permitted to carry out the construction, etc. of the Services was a designated person?*

- (e) Requiring an LP to apply for a section 14(1) permission and his obligation to ensure works comply with the requirements in section 14(3)*

29. It is necessary and practical to require an LP to continue to take charge for the plumbing works covered by a section 14(1) permission that he sought for the effective operation of the WWO and WWR. Therefore, it is **proposed** to amend the WWO to require the application for section 14(1) permissions to be made by LPs and to impose a statutory duty on the LP who has sought the section 14(1) permission to ensure the plumbing works covered by that section 14(1) permission comply with the requirements of section 14(3).

30. Nevertheless, there may be occasions where the LP who prepared and

submitted the application for the section 14(1) permission has taken reasonable steps to discharge his duties yet the works still fail to comply with the relevant requirements due to reasons out of his control. It is therefore **proposed** to impose liability only on the LP who, without reasonable excuse, fails to ensure the construction, etc. of a Service comply with the requirements of section 14(3).

Question 5

- (i) Do you agree that all applications for section 14(1) permissions should be made by LPs?*
- (ii) Do you agree that the LP who has sought a section 14(1) permission should have a statutory obligation to ensure the works covered by that permission comply with the statutory requirements under section 14(3)?*
- (iii) Do you agree that the liability should only be imposed on the LP if he has no reasonable excuse for the non-compliant plumbing works?*

(f) Updating of technical requirements and pipe and fitting standards for plumbing works

31. To address the issue related to the technical requirements and pipe and fitting standards for plumbing works under the WWO and WWR, it is **proposed** to update the technical requirements and pipe and fitting standards in Schedule 2 to WWR, to amend the definition of “BS” to refer to specific versions of the standards, and to include other applicable technical standards to the WWR.

(g) Ascertaining whether a person carrying out plumbing works is a designated person

32. At present, except in case of urgency, the WA must first obtain the consent of the occupier of any premises¹³ or a warrant issued by a magistrate before entering the premises to ascertain whether there is in respect of a fire service or inside service on the premises any contravention of the WWO, including whether the plumbing works are carried out by LPs¹⁴. However, there is a possibility that the enforcement

¹³ Pursuant to section 2 of the WWO, “premises” means any building or structure or any part thereof and any place (a) in which there is a fire service or inside service or any part of the waterworks; or (b) in which a fire service or inside service is intended to be constructed or installed.

¹⁴ Pursuant to section 12(1) of the WWO, the WA, and any person authorized by him in writing, may enter at any reasonable time, or in case of urgency at any time, any premises to, among others, ascertain whether there is in respect of a fire service or inside service on the premises any contravention of the WWO. Section 12(2) of the WWO provides that, except in case of urgency, neither the WA nor a person authorized by him may enter any premises under section 12(1) unless he first obtains the consent of the occupier of such premises or first obtains a

opportunity would have been missed by the time the consent or warrant is obtained. Therefore, in order to enable the WA to take effective enforcement actions, it is **proposed** to empower the WA to enter any non-domestic premises, such as construction sites where plumbing works are being carried out, at any reasonable time and without the need to first obtain consent or a warrant for the purpose of ascertaining whether the persons carrying out the plumbing works are the designated persons.

(h) Extension of time limit for enforcement actions

33. At present, any prosecution under the WWO or WWR must be commenced within six months¹⁵ from the time when the offence takes place. On most occasions, prosecution against offenders is time-barred due to the lapse of over six months between the time the offence took place and its subsequent discovery. This is considered unsatisfactory and has seriously reduced the deterrent effect of the regulatory control.

34. In order to enable the WA to take effective enforcement actions, reference is made to other ordinances¹⁶ governing similar industry practice and public safety issues, and it is **proposed** to state in the WWO that prosecution under the WWO or WWR can be brought within six months from discovery of the offence.

(i) Penalty level of offences

35. The penalty levels of the offences in the proposed amendments are to be kept in line with those of the current offences¹⁷ under the WWO, i.e., a maximum fine at level 4 which is currently set at \$25,000.

WORK PROGRAMME AND TRANSITIONAL ARRANGEMENTS

36. The views and suggestions collected from this consultation will be studied and the proposal will be refined as appropriate. It is aimed at completing the

warrant under section 12(3) of the WWO.

¹⁵ The limitation is imposed by section 26 of the Magistrates Ordinance (Cap. 227).

¹⁶ Reference has been made to the Lifts and Escalators Ordinance (Cap. 618), Electricity Ordinance (Cap. 406) and Gas Safety Ordinance (Cap. 51).

¹⁷ Pursuant to section 35(1) of the WWO, any person who is guilty of an offence under the WWO shall be liable on summary conviction to a fine at level 4 unless a penalty is otherwise expressly provided.

legislative drafting work and introducing the legislative amendment proposal to the Legislative Council in the 2nd quarter of 2017. Sufficient time will be allowed for the new requirements to be duly publicized to ensure a smooth transition for implementation of the requirements of the legislative amendments.

RESPONSE TO THIS CONSULTATION DOCUMENT

37. To help arrive at the best way to formulate the proposed amendments to the WWO and WWR, your views and comments are invited on any part of this consultation document. Comments can be sent in writing to the Water Supplies Department on or before **11 November 2016** by mail, e-mail or facsimile:

Mailing address	:	Legislative Review Unit Water Supplies Department 46/F, Immigration Tower 7 Gloucester Road, Wan Chai, Hong Kong
E-mail address	:	consultation2016@wsd.gov.hk
Facsimile	:	2824 0578

38. Please note that Development Bureau and WSD would wish to be able to refer to views submitted in response to this consultation document, either in discussion with others or in any subsequent report, whether privately or publicly. Any request to treat all or part of a response in confidence will be respected but if no such request is made, it will be assumed that the response is not intended to be confidential.

**Development Bureau
Water Supplies Department
September 2016**

Response Form
Amendments to the Waterworks Ordinance and Waterworks Regulations
Construction, etc. of Fire Services and Inside Services and
Updating of Technical Requirements and Pipe and Fitting Standards
for Plumbing Works

Question 1

Do you agree that the WWO should be made clear to state that registered skilled and semi-skilled workers for appropriate designated trade divisions under the CWRO are allowed to carry out, and instruct and supervise others persons to carry out, plumbing works?

Agree Disagree No Opinion (Please ✓ as appropriate)

Other views: _____

Question 2

Do you agree that there should be a statutory defence for “persons who work under instruction and supervision” of a prescribed supervisor for non-compliant plumbing works due to wrongful instruction and supervision?

Agree Disagree No Opinion (Please ✓ as appropriate)

Other views: _____

Question 3

(i) Do you agree that a prescribed supervisor who takes on the supervisor’s role should be obliged to ensure the works carried out by persons under his instruction and supervision comply with the requirements under section 14(3)?

Agree Disagree No Opinion (Please ✓ as appropriate)

Other views: _____

(ii) Do you agree that the liability should only be imposed on the prescribed supervisor if he has no reasonable excuse for the non-compliant plumbing works?

Agree Disagree No Opinion (Please ✓ as appropriate)

Other views: _____

Question 4

(i) Do you agree that any person who causes a person, other than a designated person, to construct, etc. of the Services should be liable for an offence?

Agree Disagree No Opinion (Please ✓ as appropriate)

Other views: _____

(ii) Do you agree that there should be a statutory defence for a person, who is charged with the offence under section 15(3) as amended, to prove that he believed, and it was reasonable for him to believe that the person he employed, caused or permitted to carry out the construction, etc. of the Services was a designated person?

Agree Disagree No Opinion (Please ✓ as appropriate)

Other views: _____

Question 5

(i) Do you agree that all applications for section 14(1) permissions should be made by LPs?

Agree Disagree No Opinion (Please ✓ as appropriate)

Other views: _____

(ii) Do you agree that the LP who has sought a section 14(1) permission should have a statutory obligation to ensure the works covered by that permission comply with the statutory requirements under section 14(3)?

Agree Disagree No Opinion (Please ✓ as appropriate)

Other views: _____

(iii) Do you agree that the liability should only be imposed on the LP if he has no reasonable excuse for the non-compliant plumbing works?

Agree Disagree No Opinion (Please ✓ as appropriate)

Other views: _____

Do you have any other views and suggestions?

(Please use an additional sheet if necessary)

Name / Name of organisation: _____