



Government of **Western Australia**

Guidance Note

Installing Alternative Plumbing and Drainage Solutions in Western Australia

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1. Overview

As of 1 May 2015, Western Australia adopted the Plumbing Code of Australia (PCA) as the referenced technical standard for water supply plumbing, sanitary plumbing and drainage plumbing. This means that all plumbing work carried out in Western Australia from that date must comply with the requirements of the PCA and any modifications to the PCA as set out in Regulation 49 of the Plumbers Licensing and Plumbing Standards Regulations 2000 (the Plumbing Regulations).

What is the PCA?

The PCA is a nationally-developed code published by the Australian Building Codes Board (ABCB). It will be updated tri-annually from 1 May 2016, with a new version coming into effect every three years from that date. Electronic copies of the PCA are available free of charge from the ABCB website at www.abcb.gov.au.

The PCA sets out the technical rules for the design, construction, installation, replacement, repair, alteration and maintenance of plumbing and drainage installations. Those rules are referred to in the PCA as the 'Performance Requirements'.

Compliance with the Performance Requirements of the PCA can be achieved via:

- a) a solution which complies with the **Deemed-to-Satisfy Provisions**;
- b) an **Alternative Solution**; or
- c) a **combination** of a) and b).

What are the 'Deemed-to-Satisfy' Provisions?

Subject to the variations set out in Part 6 of the Plumbing Regulations (see below), plumbing or drainage work that complies with an Australian Standard or other document that is referenced in the PCA is 'Deemed-to-Satisfy' the Performance Requirements of the PCA. For example, if a water supply plumbing installation complies with the relevant sections of Australian Standard AS/NZS 3500.1:2003 and any variations to that Standard as set out in regulation 49 of the Plumbing Regulations, it will generally meet the Deemed-to-Satisfy Provisions of the PCA.

Further information about the Deemed-to-Satisfy Provisions are available from the ABCB's website at www.abcb.gov.au.

What are the variations set out in Part 6 of the Plumbing Regulations?

Western Australia's plumbing laws have long contained a number of variations to the Australian Standards to ensure that the various provisions in the Standards are appropriate for the Western Australian plumbing environment.

As part of the process of adopting the PCA, these variations are being reduced and streamlined so as to improve national consistency in the application of plumbing technical standards.

A summary of the variations that will apply from the date the PCA takes effect in Western Australia is provided in the table at **Appendix A**.

What is an Alternative Solution?

An Alternative Solution is a plumbing or drainage solution that complies with the Performance Requirements of the PCA by means other than satisfying the Deemed-to-Satisfy Provisions.

Broadly speaking, an Alternative Solution is one that deviates in some way from an Australian Standard or other document referenced in the PCA but which has been assessed as still meeting the relevant Performance Requirements in the PCA.

Once the PCA comes into effect in Western Australia, licensed plumbing contractors will be able to incorporate Alternative Solutions when carrying out water supply plumbing work, sanitary plumbing work or drainage plumbing work, provided that the Performance Requirements of the PCA are still met.

The PCA sets out the assessment methods that must be used to determine whether the Alternative Solution meets the necessary Performance Requirements. These are discussed in section 2.2 below.

Although only licensed plumbing contractors are permitted to install Alternative Solutions, the design of an Alternative Solution will generally be done by parties other than a licensed plumbing contractor (e.g. hydraulic designers and engineers).

The ABCB has produced a fact sheet titled, “Compliance with the NCC¹” which provides further guidance on the ways in which compliance with the Performance Requirements can be achieved. A copy of the fact sheet is at **Appendix B**. Further copies are available free of charge from the ABCB’s website at www.abcb.gov.au.

Why have Alternative Solutions?

The Alternative Solutions approach allows the plumbing industry the flexibility to respond more quickly to changes in the industry and come up with innovative approaches to plumbing and drainage installations and projects.

However, it is important to stress that plumbers do not have to use Alternative Solutions if they do not want to. It is simply an option. Licensed plumbing contractors who choose to continue to carry out plumbing work in accordance with the relevant Australian Standards referenced in the PCA – as amended by regulation 49 of the Plumbing Regulations – will generally still be in compliance with the plumbing laws in Western Australia.

The purpose of this Guidance Note

The ABCB has produced a number of ‘Resource kits’ aimed at providing plumbers with a better understanding of the PCA and how it is used. These kits are available free of charge from the ABCB, either in CD-ROM format or from their website at www.abcb.gov.au.

The purpose of this Guidance Note is to supplement the documents published by the ABCB and provide guidance on how the notification processes for Alternative Solutions apply in Western Australia.

¹ The acronym ‘NCC’ stands for National Construction Code. The NCC currently comprises three volumes. Volumes 1 and 2 relate to building work and Volume 3 is the PCA.

2. Process for Developing an Alternative Solution

2.1 Introduction

The development of an Alternative Solution starts at the design stage and involves collaboration between various parties to achieve an outcome that satisfies the Performance Requirements of the PCA. Typically, the development would be set out in a design brief that would include a description and explanation of the Alternative Solution, details of the assessment process and supporting evidence (see section 2.2), and the applicable Performance Requirements.

As Alternative Solutions will usually only relate to larger and more complex projects such as the construction of a new hospital or other types of multi-occupancy commercial building, the range of people involved in developing the design brief could be quite extensive. For example, it could include the building owner; the builder or project manager; design practitioners; engineers; hydraulics consultants; water services providers; building surveyors; and government representatives (e.g. permit authorities). If a licensed plumbing contractor has been appointed early enough in the process then he or she should also be involved in the development of the Alternative Solution.

The ABCB has produced a useful resource, titled “*Performance Guidance Document*” to help those involved in developing Alternative Solutions. A copy of the document is at **Appendix C**. Further copies are available free of charge from the ABCB’s website at:

www.abcb.gov.au/about-the-national-construction-code/NCC_Performance_Based_Code.aspx

2.2 Assessing an Alternative Solution

A key aspect of the development of an Alternative Solution is the method used to assess compliance with the PCA. The assessment process evaluates the Alternative Solution to determine whether it complies with the Performance Requirements of the PCA or is shown to be at least equivalent to the Deemed-to-Satisfy Provisions.

In some situations, the assessment process may be quite straightforward. In other cases it may be more complex and require input from engineers or other technical experts.

The assessment method used to make the determination about whether an Alternative Solution complies with the Performance Requirements of the PCA must be chosen from the four options available in Part A of the PCA. Those options are:

- a) **Evidence of suitability** as set out in Part A2.2 of the PCA;
- b) **Verification methods** (which could include calculations and testing);
- c) **Comparison** with the Deemed-to-Satisfy Provisions; or
- d) **Expert judgement**².

² **Expert judgement** means the judgement of a person who has the qualifications and experience to determine whether a plumbing or drainage solution complies with the Performance Requirements. The level of qualification and/or experience to determine whether a plumbing or drainage solution complies with the Performance Requirements may differ depending

The ABCB has produced a useful document on the PCA assessment methods. A copy of the document is at **Appendix C**. Further copies are available free of charge from the ABCB's website at www.abcb.gov.au.

2.3 Materials and products used in an Alternative Solution

Under Part A2.1 of the PCA, it is a requirement that any material or product forming part of a plumbing installation **must** be certified under the WaterMark Certification Scheme unless they are exempt from that scheme. This includes materials or products used as part of an Alternative Solution. Materials and products that are exempt from the scheme must still either comply with an appropriate Australian Standard or meet the requirements of Part A2.2 of the PCA.

2.4 Responsibilities of the licensed plumber

Prior to installing an Alternative Solution, the licensed plumbing contractor must be satisfied that it has been assessed in accordance with the methods set out in the PCA and that any suitability reports or certificates confirming compliance with the PCA have been signed off by an appropriate technical expert who has all the skills and knowledge necessary to adequately determine whether the Alternative Solution meets the Performance Requirements of the PCA (see Section 3.2 below).

If a licensed plumbing contractor has any concerns that an Alternative Solution does not or will not meet the Performance Requirements of the PCA, he or she should not carry out the work and must not direct anyone else to carry out the work.

Penalties of up to \$5,000 apply if a licensed plumbing contractor certifies plumbing work that does not comply with the PCA.

IMPORTANT NOTE:

It is the licensed plumbing contractor's responsibility to ensure that compliance with the Performance Requirements of the PCA is achieved.

on the degree of complexity and the nature of the solution. In general, this assessment method would be used in cases where physical criteria cannot be tested or modelled by calculation.

3. Notification Requirements for Alternative Solutions

3.1 Introduction

The plumbing regulations require plumbers to submit a Notice of Intention (NoI) to perform major plumbing work to the Plumbers Licensing Board at least 24 hours prior to carrying out any work³.

Special arrangements have been put in place for notifications for Alternative Solutions. These arrangements are contained in regulation 45A of the Plumbers Licensing and Plumbing Standards Regulations 2000 and are explained in section 3.2 below.

A penalty of up to \$5,000 applies if the notification requirements are not met for installations incorporating an Alternative Solution.

The plumbing regulations also require the licensed plumbing contractor to submit a Certificate of Compliance to the Plumbers Licensing Board within 5 working days of the completion of major plumbing work.⁴ In the same way as for NoIs, special arrangements have been put in place for Certificates of Compliance for Alternative Solutions. These are contained in regulation 45B of the Plumbers Licensing and Plumbing Standards Regulations 2000 and are explained in section 3.3 below.

A penalty of up to \$5,000 applies if the licensed plumbing contractor fails to meet the requirements for the submission of Certificates of Compliance for installations incorporating an Alternative Solution.

3.2 Notice of Intention for plumbing work involving an Alternative Solution

Where it is proposed that an Alternative Solution be included in an installation, the Plumbing Regulations require that the licensed plumbing contractor who is responsible for the installation must submit a “*Notice of Intention to Install an Alternative Solution*” (NoI – Alt Sol) to the Plumbers Licensing Board **at least 5 working days prior to commencing the work**⁵.

As with the standard notices of intention, a NoI – Alt Sol can be ordered in the following ways:

(a) By telephone using credit card

NoI – Alt Sol forms are available for purchase over the phone by contacting the Plumbers Licensing Board. The forms cost \$22.40⁶ each. Licensed plumbing contractors can call the Plumbers Licensing Board on 08 6251 1377 and choose the option for book order. Payment by credit card will be required at the time of making the order. Please allow at least three working days for delivery.

³ Regulation 4 of the Plumbers Licensing and Plumbing Standards Regulations 2000

⁴ Regulation 45B of the Plumbers Licensing and Plumbing Standards Regulations 2000

⁵ Regulation 45A(1) of the Plumbers Licensing and Plumbing Standards Regulations 2000

⁶ Correct as at 1 May 2015

(b) Counter sales

NoI – Alt Sol forms are available for purchase from all of the Commerce offices. Refer to the back page of the form for locations and office hours. Payment must be made at the time of collecting the form. Payment over the counter will be able to be made by cash, EFTPOS, credit card, cheque or money order. Cheques and money orders are to be made payable to the 'Plumbers Licensing Board'.

(c) Mail order

To order an NoI – Alt Sol form by mail, simply complete the certificate order form at <http://www.commerce.wa.gov.au/publications/certificate-order-form>, attach a cheque or money order or provide credit card details and mail to:

Plumbers Licensing Board
Locked Bag 14
Cloisters Square WA 6850

Completing the NoI – Alt Sol form

The “Notes” page on the front page of the NoI – Alt Sol form provides detailed information on how to complete and submit the form. In order to comply with the Plumbing Regulations, the licensed plumbing contractor must:

1. Complete all relevant fields and sign the form.
2. Provide copies of the evidence, information or advice he or she has relied upon in satisfying themselves that the alternative plumbing or drainage solution meets the Performance Requirements of the PCA (see page 8 below).
3. Provide a statement that the property owner and water services provider (where relevant) has been informed of the proposed inclusion of an Alternative Solution.
4. A [notification fee](#) plus any additional amount relating to new installation fees (also known as fixture fees).

As indicated in section 2.2 above, it is ultimately the responsibility of the licensed plumbing contractor to ensure that any plumbing work for which he or she is responsible complies with the Performance Requirements of the PCA.

The licensed plumbing contractor must also ensure that the Alternative Solution is installed in accordance with the details contained in the NoI. If an alteration is required, the process set out in Section 4.1 below must be followed.

IMPORTANT NOTE:

In signing and submitting the NOI for work involving an Alternative Solution, the licensed plumbing contractor is certifying that he or she is satisfied that the design of the Alternative Solution has been assessed by an appropriately-qualified ‘technical expert’ (see below) as meeting the Performance Requirements of the PCA and that the installation of the Alternative Solution will also be in compliance with the Performance Requirements of the PCA.

What is meant by 'technical expert'?

The PCA does not specify who may carry out assessments of Alternative Solutions, largely because the skills and experience required of the assessor will vary depending on the nature and complexity of the Alternative Solution. It is therefore difficult to be precise about who would be considered to be a 'technical expert'. However, certified practising hydraulic engineers or certified practising civil engineers would generally be regarded as meeting the required standard of competency.

There may also be occasions where the nature of the Alternative Solution is such that the licensed plumbing contractor him/herself is competent to assess whether it complies with the Performance Requirements of the PCA.

If a licensed plumbing contractor has any doubts as to whether the design of an Alternative Solution has been assessed by a suitably qualified person, he or she should contact the Plumbers Licensing Board for guidance.

Evidence and information required to be submitted with a Nol - Alt Sol

As each Alternative Solution must be assessed by a technical expert to determine compliance with the Performance Requirements of the PCA, documentary evidence of the assessment method used to make that determination must be submitted with the Nol – Alt Sol.

This evidence would generally be in the form of a report or certificate signed by the person who has carried out the assessment, but it could also be a set of calculations; laboratory testing data; or in-situ testing data. Computer-aided modelling may also have been used, as well as various types of analysis methods such as: comparative or absolute analysis; qualitative or quantitative analysis; or deterministic or probabilistic analysis.

Whatever the type of evidence, the important thing to remember is that it must contain a declaration by an appropriately-qualified technical expert that the Alternative Solution has been assessed in accordance with the assessment methods set out in the PCA and found to be in compliance with the Performance Requirements of the PCA.

IMPORTANT NOTE:

It is not for the PLB to approve or endorse Alternative Solutions.

Nor is it the PLB's role to ensure that an Alternative Solution will meet the Performance Requirements of the PCA – this is the responsibility of the technical expert and the licensed plumbing contractor.

Licensed plumbing contractors will need to satisfy the PLB that they have followed the PCA process and have submitted with the notice of intention documentary evidence of the assessment method used to demonstrate that the Alternative Solution will meet the Performance Requirements of the PCA.

Incomplete Nols

Where insufficient or incomplete information or documentation has been submitted with a Nol for work involving an Alternative Solution, the Plumbers Licensing Board will write to the licensed plumbing contractor requesting the additional information or documentation.

3.3 Certificates of Compliance for plumbing work involving an Alternative Solution

The plumbing regulations require licensed plumbing contractors to submit a Certificate of Compliance to the Plumbers Licensing Board **within 5 working days of the completion of plumbing work that includes an Alternative Solution.**⁸ This includes all work involving an Alternative Solution.

As is the case for 'standard' Nols, the licensed plumbing contractor must provide a copy of the Certificate of Compliance to the following parties:

- The owner or occupier of the place where the Alternative Solution was installed; and
- The relevant local government authority if the work is drainage plumbing work and the drainage plumbing is not, and is not intended to be, connected to a sewer.

Upon receipt of the Certificate of Compliance, the Plumbers Licensing Board will notify Landgate⁹ that the property has an Alternative Solution installed. Landgate will enter that information into its Property Interest Report database. Potential buyers and other interested stakeholders will then be able to see if an Alternative Solution has been installed at the property by purchasing a copy of the Property Interest Report from Landgate.

IMPORTANT NOTE:

Alternative Solutions may be utilised for plumbing work only – this does not extend to water service providers requirements such as trade waste applications.

⁸ Regulation 45B of the Plumbers Licensing and Plumbing Standards Regulations 2000

⁹ Landgate is a statutory authority responsible for maintaining Western Australia's official register of land ownership and survey information. It is Western Australia's primary source of land information and provides easy access to location information, including property details.

4. Other matters

4.1 Altering or withdrawing Notices of Intention for plumbing work involving an Alternative Solution

If a licensed plumbing contractor has submitted a notice of intention to the PLB but is not going to carry out some or all of the work, he or she must withdraw or partially withdraw (as appropriate) the notice as soon as practicable¹⁰. This must be done by completing the relevant section on the Certificate of Compliance form and submitting the completed form to the PLB.

In cases where a licensed plumbing contractor has submitted a notice of intention and has commenced the work but will not be completing it, he or she must submit a Certificate of Compliance to the PLB in relation to the work that has been completed¹¹.

Where an alteration needs to be made to a notice of intention that has already been submitted to the PLB, the licensed plumbing contractor should notify the PLB of the changes by completing the relevant section on the corresponding Certificate of Compliance form and submitting the completed form to the PLB.

These requirements are largely the same as for plumbing work that does not involve an alternative plumbing or drainage solution.

Financial penalties of up to \$3,000 apply if a licensed plumbing contractor fails to meet the obligations relating to alterations to or withdrawals of NoIs.

4.2 False or misleading information

Financial penalties of up to \$5,000 apply if a person knowingly makes a false or misleading statement, or knowingly provides false or misleading information, on a notice of intention form or a Certificate of Compliance form¹².

¹⁰ Regulation 45C of the Plumbers Licensing and Plumbing Standards Regulations 2000

¹¹ *ibid*

¹² Regulation 46 of the Plumbers Licensing and Plumbing Standards Regulations 2000

5. Compliance

5.1 Audits by Plumbing Compliance Officers

The Building Commission will audit the plumbing installation an alternative solution. The final audit schedule will be determined by the perceived risk of the installation and is likely to include at least one audit during installation and one post-installation audit.

In accordance with regulation 71 of the Plumbing Regulations, Plumbing Compliance Officers may issue a rectification notice where it is not considered that the plumbing installation has been carried out in accordance with the Performance Requirements of the PCA.