



Government of **Western Australia**

Department of Mines, Industry Regulation and Safety

Plumbers Licensing Board

Guidance note:

Installing performance solutions for plumbing work in

Western Australia

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1. Overview

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

What is the Plumbing Code of Australia?

The PCA is Volume 3 of the National Construction Code series published by the Australian Building Codes Board (ABCB). The NCC Volumes 1, 2 and 3 are updated triennially, with a new version coming into effect every three years from that date and the next versions will be apply from 1 May 2023. 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** in the PCA and AS/NZS 3500;
- (b) a **performance 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 Regulations (see below), plumbing or drainage work that complies with an Australian Standard or other such document referenced in the PCA is deemed-to-satisfy (DTS) the performance requirements of the PCA. For example, if a water supply plumbing installation complies with the relevant sections of Australian standard AS/NZS 3500.1:2021 and any variations to that Standard as set out in regulation 49 of the Regulations; it will generally meet the DTS provisions of the PCA and be compliant.

What are the modifications set out in Part 6 of the Regulations?

Plumbing laws in WA have long contained a number of modifications to the Australian standards to ensure that the various provisions in the standards are appropriate for the WA plumbing environment. For example storage water heaters are required to have an expansion valve fitted due to poor water quality in some areas of WA.

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

What is a performance solution?

A performance solution is a plumbing or drainage solution that complies with the performance requirements of the PCA by means other than, or in combination with the DTS provisions.

Broadly speaking, a performance solution is one that deviates in some way from an Australian Standard or other document referenced in the PCA but has been assessed as still meeting the relevant performance requirements in the PCA.

WA licensed plumbing contractors are able to incorporate performance solutions when carrying out water supply, sanitary and drainage plumbing work, provided the performance requirements of the PCA are met.

The PCA sets out the assessment methods that must be used to determine whether the performance solution meets the necessary performance requirements.

Although only licensed plumbing contractors are permitted to install performance solutions, the design of a performance solution or expert judgement will generally be provided by parties other than a licensed plumbing contractor, for example hydraulic designers or engineers.

The ABCB has produced a fact sheet titled, compliance with the NCC, providing further guidance on the ways in which compliance can be achieved.

Why have performance solutions?

The performance 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.

However, it is important to stress that plumbers do not have to use performance 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 to the PCA, as amended by regulation 49 of the Regulations will generally still be in compliance with the plumbing laws in WA.

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 can be 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 performance solutions apply in WA.

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 a performance solution

2.1 Introduction

The development of a performance 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 of the performance solution would be set out in a design brief that includes a description and explanation of the performance solution, details of the assessment process and supporting evidence, to support the applicable performance requirements.

As most performance solutions will 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 will be quite extensive. For example, it could include the building owner; the builder or building project manager; design practitioners; engineers; hydraulic consultants; water services providers; building surveyors; and Government representatives. If a licensed plumbing contractor has been appointed early enough in the process they should also be involved in the development of the performance solution.

The ABCB has produced a useful resource, a performance guidance document to help those involved in developing Performance solutions. Copies are available free of charge from the ABCB's website at:

<https://www.abcb.gov.au/news/2021/ncc-provision-developing-performance-solutions>

2.2 Assessing a performance solution

A key aspect of the development of a performance solution is the method used to assess compliance with the PCA. The assessment process evaluates the performance 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 straight forward. 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 a performance solution complies with the performance requirements of the PCA must be chosen from the four options available in Part A of the PCA. The options are as follows:

- (a) **Evidence of suitability** as set out in Part A2G2 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:** The judgement of an expert who has the qualifications and experience to determine whether a performance solution or deemed-to-satisfy solution complies with the performance requirements.

2.3 PCA 2022, A2G2 for performance solutions

The PCA 2022 lists the provisions that must be complied with for the submission of a performance solution. A2G2(4) sets out the steps that must be taken and the required documentation for the submission of a performance solution. The amount of detail required in the documentation will depend on the complexity of the solution.

- (4) Where a performance requirement is proposed to be satisfied by a performance solution, the following steps must be undertaken:
- (a) Prepare a performance-based design brief in consultation with relevant stakeholders.
 - (b) Carry out analysis, using one or more of the Assessment methods listed in (2), as proposed by the performance-based design brief.
 - (c) Evaluate results from (4)(b) against the acceptance criteria in the performance-based design brief.
 - (d) Prepare a final report that includes—
 - (i) all performance requirements and/or deemed-to-satisfy provisions identified through A2G2(3) or A2G4(3) as applicable; and
 - (ii) identification of all assessment methods used; and
 - (iii) details of steps (4)(a) to (4)(c); and
 - (iv) confirmation that the performance requirement has been met; and
 - (v) details of conditions or limitations, if any exist, regarding the performance solution.

2.4 Materials and products used in a performance solution

Under Part A5G4 of the PCA, requires any material or product forming part of a plumbing and drainage installation **must** be certified under the WaterMark Certification Scheme unless excluded from that scheme (low risk products). This also includes materials or products used as part of a performance solution. Materials and products that are excluded from the scheme must still either comply with an appropriate Australian Standard or meet the requirements of Part A5G2. It should be remembered that performance solutions are not applicable to material or products that are required to be WaterMarked as per WaterMark Schedule of Products.

2.5 Responsibilities of the licensed plumbing contractor

Prior to installing a performance 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 Performance solution meets the Performance Requirements of the PCA.

If a licensed plumbing contractor has any concerns that a performance solution does not or will not meet the performance requirements of the PCA, they 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.

3. Notification requirements for performance solutions

3.1 Introduction

The plumbing regulations require licensed plumbing contractors 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 of performance 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 a performance 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 performance 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 a performance solution.

3.2 Notice of intention for plumbing work involving a performance solution

Where it is proposed that a performance solution be included in an installation, the plumbing regulations require that the licensed plumbing contractor who is responsible for the installation to submit a notice of intention to install a performance solution (NOI – PER 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 – PER SOL is available by eNotice at the Building and Energy web site.

www.commerce.wa.gov.au/building-and-energy/notice-intention-and-enotice

ENotice is a web based facility for the electronic lodgement of NOIs and CoCs for major plumbing work. It is free to register and use, however fixture and certificate fees still apply. eNotice has a number of 'smart' features to minimise time and effort to fill out forms, such as address validation and automatic entry of plumbing contractor and company details. On lodgement of a notice, eNotice will send (by email) a copy of the notice to you, as well as the customer, as long as the customer's email address has been provided by you. The system is accessible on mobile devices such as smart phones and tablets (as well as normal computers) on a 24/7 basis. However, it requires connection to the internet.

Getting started:

1. Go to www.dmirs.wa.gov.au/plumbingnotice.
2. Register as an eNotice user. You will need your Licence number, email address and phone number registered with Building and Energy.
3. Once registered, login and check that your contact details are correct by going to 'My Details' on the eNotice menu. These details autofill in the notice, so it is important that they are up to date.

Completing the NOI – PER SOL form

In order to comply with the plumbing regulations, the licensed plumbing contractor must:

1. Complete all relevant fields and submit the form.
2. Provide copies of the evidence, information or advice they have relied upon in satisfying themselves that the performance solution for plumbing work meets the performance Requirements of the PCA.
3. Check the box that states that the property owner has been informed of the proposed inclusion of a performance solution.
4. Pay 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 they are responsible, complies with the performance Requirements of the PCA.

The licensed plumbing contractor must also ensure that the performance solution is installed in accordance with the details contained in the NOI – PER SOL. If an alteration is required, the process set out in section 4.1 below must be followed.

IMPORTANT NOTE:

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

In submitting the NOI for work involving a performance solution, the licensed plumbing contractor is certifying that they are satisfied the design of the performance solution has been assessed by an appropriately-qualified technical expert as meeting the performance requirements of the PCA and that the installation of the performance solution will also be in compliance with the performance requirements of the PCA.

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 2023

Evidence and information required to be submitted with a NOI - PER SOL

As each performance 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 NOI – PER 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 certification from the manufacturer on the installation requirements of a material or product.

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 performance 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.

Incomplete NOIs

Where insufficient or incomplete information/documentation has been submitted with a NOI for work involving a performance solution, the Plumbers Licensing Board will write to the licensed plumbing contractor requesting the additional information or documentation.

What is meant by ‘technical expert’?

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

There may also be occasions where the nature of the performance 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 a performance solution has been assessed by a suitably qualified person, they should contact the Plumbers Licensing Board for guidance.

3.3 Certificates of compliance for plumbing work involving a performance 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 a performance solution.**⁸ This includes all work involving a performance solution.

As is the case for standard notices of intention, 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 performance 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.

IMPORTANT NOTE:

It is not for the PLB to approve or endorse performance solutions.

It is also not the PLB's role to ensure that a performance 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 Performance solution will meet the performance requirements of the PCA.

IMPORTANT NOTE:

Performance solutions may be utilised for plumbing work only. Performance solutions do not extend to water service providers requirements such as trade waste applications.

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

4. Other matters

4.1 Altering or withdrawing notices of intention

If a licensed plumbing contractor has submitted a notice of intention to the PLB for work involving a performance solution but is not going to carry out some or all of the work, they 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 on line through eNotice and select 'No work has commenced'.

In cases where a licensed plumbing contractor has submitted a notice of intention and has commenced the work but will not be completing the work, they must submit a certificate of compliance on line through eNotice and select 'Work commented but will not be completed'¹¹.

These requirements are largely the same as for plumbing work that does not involve a performance solution. Penalties of up to \$3,000 apply if a licensed plumbing contractor fails to meet the obligations relating to alterations to or withdrawals of NOI – PER SOL.

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.

5. Compliance

5.1 Audits by plumbing inspectors

Building and Energy may audit the plumbing installation of a performance 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 Regulations, plumbing inspectors 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.

In accordance with regulation 70 the licensed plumbing contractor must also notify the PLB that drainage plumbing pipework is in the ground and ready for inspection.

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