Ensuring that plumbing and drainage products are fit for purpose

A Regulatory Commentary

after consultation

December 2014

The Australian Building Codes Board

The Australian Building Codes Board (ABCB) is a joint initiative of all levels of government in Australia, together with the construction industry. Its mission is to oversee issues relating to health, safety, amenity and sustainability in buildings. The ABCB promotes efficiency in the design, construction and performance of buildings through the National Construction Code, and the development of effective regulatory and non-regulatory approaches. The Board aims to establish effective and proportional codes, standards and regulatory systems that are consistent between States and Territories. For more information see http://www.abcb.gov.au

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Glossary

Abbreviation	Full Name
ABCB	Australian Building Codes Board
ACCC	Australian Competition and Consumer Commission
CABs	Conformity Assessment Bodies
COAG	Council of Australian Governments
CodeMark	CodeMark Certification Scheme
JAS-ANZ	Joint Accreditation System of Australia and New Zealand
NCC	National Construction Code
NPRF	National Plumbing Regulators Forum
OBPR	Office of Best Practice Regulation
PCA	Plumbing Code of Australia
RIS	Regulation Impact Statement
WaterMark	WaterMark Certification Scheme
WELS	Water Efficiency Labelling and Standards Scheme

Introduction

Why a Regulatory Commentary, not a Final RIS?

A Consultation RIS, *Options to Ensure that Plumbing and Drainage Products are Fit for Purpose,* was published on the ABCB website in September 2014 and comments were received from interested parties to the end of October 2014. Normally the comments would be summarised in a RIS "Consultation" chapter and incorporated into the analysis where appropriate, particularly in relation to impacts and costings, and the conclusions amended as necessary in the light of these comments. The revised RIS would be termed a "Final RIS" and provided to the Board for decision on the options.

In this document the comments from interested parties have been summarised in a "Consultation" chapter and the costings have been revised based on the comments received. This document will be provided to the Board when it considers the future of the WaterMark scheme. However, this document is not a Final RIS.

In the course of engaging stakeholders following the publication of the Consultation RIS, and listening to their views, the ABCB has been unable to substantiate the problem as originally described. As a consequence a newly defined problem has been determined that is much narrower in scope, along with a proposal to address it. These issues are detailed in The Problem and Options chapters of this document. Both the newly defined problem and the proposal to address it are minor, and would not normally require a RIS.

Recent Engagement with Stakeholders

Following the publication of the Consultation RIS, the ABCB consulted a Board appointed working group comprising plumbing regulators from the States and Territories and representatives of industry. The ABCB sought advice on the extent to which the WaterMark scheme could be focussed on health and safety through narrowing the scheme's objectives and excluding products from the scheme where health and safety was not an issue; the Consultation RIS contained an initial estimate that 30% of products might be excluded from the scheme.

The working group, and regulators and industry more broadly, advised that the current broad range of objectives for the WaterMark scheme should be retained with some clarification and as a result, the scope of products covered under the scheme should not be significantly changed. This position was overwhelmingly supported by comments from industry and government regulators on the Consultation RIS. The ABCB has not been able to establish sufficient evidence with which to contest this advice in the broad.

Consequently the problem now does not refer to WaterMark being "poorly targeted" and Option 1 now has been renamed "Improving the WaterMark Scheme" with the previous attention to focussing the scheme wholly on health and safety objectives removed.

Advice from the OBPR

The ABCB sent this document to the Office of Best Practice Regulation (OBPR) for advice on whether these issues warranted a Regulation Impact Statement (RIS). The OBPR replied:

- Based on the information contained in the document you have provided, the revised scope of the proposed changes to the Watermark Scheme are likely to be 'minor' in nature, and therefore would not require a Regulation Impact Statement.

- Given that the Consultation RIS has been published, it may assist transparency to publish a document – which would not need to be called a RIS – explaining the reasons for the decision not to proceed with the broader reforms. This would be a decision for the ABCB and the document would not require review from the OBPR nor publication on the OBPR's website.

- As the changes are 'minor', it follows that the ABCB would not be non-compliant if it were to take a decision to implement the measures set out in the document.

The Problem

The ABCB has conducted a process to identify issues with the WaterMark scheme and proposals for improvement that respond to those issues. The process included consultation with key stakeholders.

The outcome of this process, in considering the issues with WaterMark, was to generally affirm the objectives of WaterMark, the overall framework of the scheme, the general operational procedures to achieve the objectives, and its current scope in terms of the range of products and product categories covered by the scheme. In these circumstances, there is no indication of a fundamental problem with WaterMark in its role of ensuring that plumbing and drainage products are fit for purpose.

The issues with the WaterMark scheme, as identified in the ABCB review and consultation process, are detailed below.

1. Risk assessment of materials and products is based on consequence only, which is at variance with principles of risk assessment that require consideration of both expected consequence and likelihood.
2. The fragmented structure, inconsistent language, duplication and contradictions across the 38 reference documents make it difficult for many participants to comply with scheme procedures in a consistent manner.
3. Documentation of operational procedures is inadequate to enable accountability of participants in the scheme. The extent of work undertaken cannot be validated by the administrator. The scheme data-base is compromised, with inconsistencies between the CABs in the information uploaded. The current royalty funding arrangements, that support administration, are unreliable and make accurate financial projections impossible.
4. The development of technical specifications for new and innovative products involves uncertainty and ambiguity because of inconsistencies between the three principal reference documents.
5. The current royalty funding arrangements, which generated receipts of $200,000 last financial year, are insufficient to support effective administration of the scheme by the ABCB.
6. Administration of WaterMark has ignored more recent schemes that are related or similar, where linkages with those schemes may enable efficiency gains in administration. These schemes are the Water Efficiency Labelling and Standards Scheme (WELS), a mandatory labelling scheme administered by the Commonwealth Department of Environment, and the CodeMark Certification Scheme (CodeMark), a voluntary scheme to certify that building products are fit for purpose, administered by the ABCB.

These issues are important to address but do not constitute a material change to the scheme. The CABs will still undertake risk assessments of applications and will follow procedures outlined in WaterMark reference documents. Technical specifications will continue to be developed for new and innovative products. The scheme data base will continue to be updated and the funding arrangements will deliver some cost recovery for administration. Linkages with other schemes may

be possible. The issues outlined above provide a basis for the ABCB to improve performance of the scheme.

Objectives

The key objective, as stated in Part A2 of the Plumbing Code of Australia (PCA), is to ensure that every part of a plumbing or drainage installation uses materials and products that are fit for the purpose for which they are intended.

The objectives of WaterMark are listed in Part G of the PCA are also relevant, to:

a) Provide a process to authorise materials and products to enable their use in plumbing and drainage installations; and
b) Ensure that plumbing and drainage materials and products are fit for purpose and their use in plumbing and drainage installations does not create significant risks of:
    i. Personal illness, loss, injury or death
    ii. Environmental degradation
    iii. Contamination of the water resource
    iv. Adverse impact on infrastructure
    v. Contamination of water supplies
    vi. Wastage of resources (water and energy)
    vii. The inability of a material or product to function as intended

The Goal of the PCA is also relevant – to enable the achievement of nationally consistent, minimum necessary standards of relevant safety, health, amenity and sustainability objectives efficiently. The health and safety objectives would be most relevant to plumbing and drainage materials and products.

Options

The Status Quo

The Status Quo is the default choice for decision-makers in considering alternatives to achieve the objectives. Where the incremental impacts of other options would result in more costs than benefits, or would be ineffective in addressing the problem or achieving the objectives, a regulatory analysis will conclude in favour of the Status Quo.

The Status Quo will be regarded as a baseline, as a basis to determine the incremental impacts of the options.

Option 1 – Improving the WaterMark Scheme

Under Option 1 the mandatory WaterMark product certification scheme would continue, with its objectives, over-arching framework and procedures all retained. Option 1 would address the issues with specific elements of the scheme as listed in the Problem chapter and so improve the scheme's performance.

Option 1 may be perceived as little different from the Status Quo with the key features of the WaterMark scheme retained, however, significant changes to the administration and governance of the scheme will deliver discernible benefits over time. This option is separately identified so the costs and benefits of the improvements to the scheme can be clearly seen in the Impact Analysis.

The Problem outlined six principal issues with the WaterMark scheme. These issues are noted below, together with proposals for improvement.

1. The risk assessment process undertaken by the CABs is based on consequence only.
    a. **Proposal for Improvement** - the ABCB will review and tighten the risk assessment process, to better reflect risk assessment principles.
2. The fragmented structure, inconsistent language, duplication and inconsistencies across 38 reference documents.
    a. **Proposal for Improvement** - the ABCB will revise and consolidate the scheme rules into a single document that is internally consistent and clarifies the roles and responsibilities of participants in the scheme.
3. Documentation of operational procedures is inadequate to enable accountability of participants in the scheme.
    a. **Proposal for Improvement** – the ABCB will build on the consolidation of the scheme rules to refine the current agreements between manufacturers and the CABs, and between the CABs and the ABCB. The ABCB will also review and update the WaterMark product database so that WaterMark operations will be transparent to all stakeholders.
4. Development of specifications for new, innovative products involves uncertainty and ambiguity because of inconsistencies between three principal reference documents.
    a. **Proposal for Improvement** – the ABCB will resolve inconsistencies between the principal reference documents and assist the development of specifications by appointing an expert specification drafter.

5. The current royalty funding arrangements are insufficient to support administration of the scheme by the ABCB.
    a. **Proposal for Improvement** – the ABCB will move to full cost recovery for administration, increasing the contribution from industry from $200,000 currently to $650,000 per year.
6. Administration of WaterMark has ignored other schemes that are related or similar (WELS and CodeMark) where linkages with those schemes may enable efficiency gains in administration.
    a. **Proposal for Improvement** – subject to the outcomes of a review of WELS by the Department of the Environment, the ABCB will explore linkages with other schemes that may enable efficiency gains in administration.

Feasibility of a Voluntary WaterMark Scheme

The Consultation RIS included a voluntary WaterMark scheme as Option 2. Stakeholders generally saw a voluntary scheme reducing to become the equivalent of CodeMark, which in the building industry certifies the compliance of 100 out of an estimated 6,000 building products as complying with the NCC – a trivial scheme compared with the current mandatory WaterMark. A voluntary scheme would appear to be unsustainable, particularly as it is not supported by the eight States and Territories who regulate it and use it as an integral part of their compliance regimes, and so it is excluded from further consideration.

Appropriateness of Other Options

The Consultation RIS included two further options: Option 3 – quality assurance via general PCA certification; and Option 4 – quality assurance without certification. Both options addressed a problem in the Consultation RIS that "the WaterMark product certification scheme is poorly targeted and imposes unnecessary costs on some manufacturers".

Since the publication of the Consultation RIS, the ABCB conducted a process of discussing issues and seeking advice from the working group of regulators and industry. This process could have clearly established the extent to which the scheme is poorly targeted. The process has run its course and with some exceptions there is now a shared understanding between the ABCB and the working group that the WaterMark scheme is not poorly targeted.

There should not be any significant change in coverage of products or product categories, however, over time, with the application of the revised risk methodology and other improvements to the scheme, there will be greater rigour in new products being entered onto the list of WaterMark products as well as some refinement of those that are already on it.

In these circumstances, there is no indication of a fundamental problem with WaterMark in its role of ensuring that plumbing and drainage products are fit for purpose. The statement of the problem has changed significantly since the Consultation RIS – with the emphasis now on key issues associated with the operation of the WaterMark scheme. The Consultation RIS Options 3 and 4 do not address these issues specifically and so would not be an appropriate response to them. The Consultation RIS Options 3 and 4 could also be considered to be a disproportionate response to these operational issues. The Consultation RIS Options 3 and 4 are therefore excluded from further consideration.

Impact Analysis

Stakeholders Affected by Option 1

The following stakeholders will be affected by Option 1:

- Domestic and overseas manufacturers of plumbing and drainage products.
    - Manufacturers will be affected by the operational changes to the WaterMark scheme.
- Conformity Assessment Bodies (CABs) will be affected by the operational changes to the WaterMark scheme.
- Regulatory agencies in the States and Territories will be affected by the revisions to the risk assessment methodology and clarification of the objectives, limiting scope creep.

The following stakeholders will not be affected, or not significantly affected, by the Options:

- Practitioners, the plumbers and drainers who install plumbing and drainage products, will be unaffected by the operational changes to WaterMark because products bearing the WaterMark stamp will continue to be supplied as at present.

- Regulatory agencies in the States and Territories – who inspect installations.
    - The inspection regimes are not required to change under Option 1.
- Hydraulic consultants – who design plumbing and drainage products.
    - Hydraulic consultants will continue to design new products that satisfy the PCA certification requirements.
- Testing laboratories – that test new products.
    - New products will continue to be tested and validated by the CABs under Option 1.
- Retailers and industry supply outlets - will continue to supply to the market what is provided to them by the manufacturers.
    - There will be no substantial change to products supplied with a WaterMark stamp.
- Occupants of buildings – should not notice any change as products with the WaterMark stamp will continue to be supplied, as at present.

Impacts of Option 1 – Improving the WaterMark scheme

The ABCB is proposing six principal areas for improvement in the mandatory WaterMark scheme.

The benefits of these improvements are detailed below.

1. Proposal for Improvement - the ABCB will review and tighten the risk assessment process, to better reflect risk assessment principles.
    a. **Benefit** – risk assessment of materials and products undertaken by the CABs will be more rigorous and focussed on risk rather than just consequence (as occurs currently). The basis for including the materials and products included in the WaterMark scheme will be more rigorously demonstrated. The risk assessment will identify how specific products could potentially fail (in product manufacture and installation) and these issues will be addressed in the product specifications and the information will be available to those responsible for the installation specifications,

this along with other changes to the governance arrangements for the scheme will reduce scope creep and over time remove products from the WaterMark list that do not meet the clarified scheme objectives.

2. Proposal for Improvement - the ABCB will revise and consolidate the scheme rules into a single document that is internally consistent and clarifies the roles and responsibilities of participants in the scheme.
    a. **Benefit** – all participants will behave consistently and in accordance with one set of scheme rules, facilitating the achievement of the scheme objectives. Manufacturers can expect the same risk assessment and operational procedures from all CABs. The ABCB is aiming to produce a single document that will be much shorter than the 2,000 pages from 38 documents currently. This shorter document will avoid the ambiguities that exist at present and facilitate compliance of all participants with the scheme rules.
    b. The new consolidated rules will be much easier to use as a reference document. It would be much shorter than the current 2,000 pages in 38 documents and so efficiency in accessing material will be improved. If the efficiency in accessing material improves by 50% and all participants reference the rules about one hour each quarter, then the annual efficiency savings to participants from a shorter reference document would be 4 (hours) x 50% x [450 (manufacturers/suppliers) + 9 (CABs) + 1 (JAS-ANZ) = 920 hours.
3. Proposal for Improvement – the ABCB will build on the consolidation of the scheme rules to refine the current agreements between manufacturers and the CABs, and between the CABs and the ABCB. The ABCB will also review and update the WaterMark product database.
    a. **Benefit** – the refined agreements will be aligned with the new, single document of scheme rules, and will bring greater clarity to expectations of each participant's role and responsibility.
    b. The updated product database will be transparent to all stakeholders and an aid to enhancing the accountability of all participants. Improvements to the database will include improved access to information regarding the product licence, intended use/purpose, limitations and installation requirements / instructions. Stakeholders such as practitioners and regulators will benefit.
4. Proposal for Improvement – the ABCB will resolve inconsistencies between the principal reference documents and assist the development of specifications by appointing an expert specification drafter, for use by the CABs on a user pays basis.
    a. **Benefit** – new specifications developed by an expert drafter will be higher quality than many CABs currently produce. As a consequence, the review process by the ABCB can be quicker and new innovative products may be brought onto the market sooner than is currently the case.
5. Proposal for Improvement – the ABCB will move to full cost recovery for administration, increasing the contribution from industry from $200,000 currently to $650,000 per year.
    a. **Benefit** – the ABCB will thoroughly monitor and manage the scheme. The issues currently being addressed by the ABCB arise from under-resourcing of the previous administration. In the period immediately ahead the ABCB will monitor how the improvements to the scheme are working in practice, and consider whether any adjustments need to be made.

6. Proposal for Improvement – the ABCB will explore linkages with other schemes that may enable efficiency gains in administration.
    a. **Benefit** – some efficiency gains in administration may be possible. As the ABCB administers both WaterMark and CodeMark, there may be efficiencies in adopting common approaches to certification, including similar software and database design. WELS is currently being reviewed by the Commonwealth Department of Environment and the scope for linkages with that scheme will be considered when the WELS review has been completed.

The costs of these improvements are detailed below.

1. Proposal for Improvement - the ABCB will review and tighten the risk assessment process, to better reflect risk assessment principles.
    a. **Cost** – each CAB is currently required to undertake a thorough assessment of risk, including seeking advice from a panel of risk experts. This requirement will not change although it may be more clearly expressed in the consolidated scheme rules. What will change will be the review of risk assessments by the ABCB to ensure that these are thorough, rigorous and focused on risk. The ABCB's reviews of risk assessments will be undertaken with existing resources. The CABs will be required by the ABCB to deliver higher quality assessments, which will be provided within their current commercial operations. Additional costs are not anticipated for this proposal.
2. Proposal for Improvement - the ABCB will revise and consolidate the scheme rules into a single document that is internally consistent and clarifies the roles and responsibilities of participants in the scheme.
    a. **Cost** – all participants in the scheme must read and understand the consolidated scheme rules. The consolidated rules will be similar in intent to the current rules but expressed differently, as well as more succinctly and clearly. There will be a once off cost for all participants in reading and noting differences in the rules. The content would not be new for participants and so the reading and noting exercise could be accomplished efficiently, say in two hours. Quantitatively, the time cost would be: 2 (hours) x [450 (manufacturers / suppliers) + 9 (CABs) + 1 (JAS-ANZ) = 920 hours.
3. Proposal for Improvement – the ABCB will build on the consolidation of the scheme rules to refine the current agreements between manufacturers and the CABs, and between the CABs and the ABCB. The ABCB will also review and update the WaterMark product database.
    a. **Cost** – new agreements will be prepared for the manufacturers and the CABs. The new agreements will be prepared by the ABCB within existing resources. The new agreements will need to be read and understood by participants. If two hours is required to read and understand the new agreement then the total time cost for this activity would be around 920 hours.
    b. The ABCB will review and update the WaterMark product database within existing resources.
4. Proposal for Improvement – the ABCB will resolve inconsistencies between the principal reference documents and assist the development of specifications by appointing an expert specification drafter.

a. **Cost** – the ABCB will go to tender to identify a suitable expert specification drafter. The CABs will be able to use the expert specification drafter if it makes commercial sense to do so. Many CABs lack specification expertise and the process of obtaining ABCB agreement to new specifications may be quicker if the initial draft is high quality. From the CABs point of view this could mean a cost saving. Overall no additional costs are expected.
b. The ABCB will resolve inconsistencies between the principal reference documents within existing resources.

5. Proposal for Improvement – the ABCB will substantiate the resources required to effectively and efficiently administer the scheme and seek to achieve full cost recovery, increasing the revenue indirectly from industry from $200,000 currently to $650,000 per year.
    a. **Cost** – an additional $450,000 per year will be required.
6. Proposal for Improvement – the ABCB will explore linkages with other schemes that may enable efficiency gains in administration.
    a. **Cost** – the cost of exploring possible linkages with other schemes will be undertaken by the ABCB within existing resources and any efficiencies achieved passed on through reduced cost recovery revenues.

Business Compliance Costs Checklist for Option 1

Consideration is given to any compliance burden imposed on business as a result of the adoption of Option 1.

- Notification – Option 1 does not require any change in businesses obligation to report certain events.
- Education – there is a once off cost to business of keeping abreast of the improvements to the WaterMark scheme. The time cost for manufacturers to read and understand the new consolidated scheme rules is estimated to be 2 (hours per manufacturer) x 450 (manufacturers) = 900 hours.* There will also be an efficiency gain in using the new consolidated scheme rules because it will be shorter than the 2,000 pages for the scheme rules currently. The efficiency gain each year could be 50% (efficiency gain) x 4 (hours manufacturers would reference the rule each year) x 450 (manufacturers) = 900 hours each year. So the once off costs of keeping abreast with the improvements in the WaterMark scheme would be equivalent to the efficiency gains in the first year from using a shorter reference document.
- Permission – participants in the scheme do so under contract. Participants will incur a once off cost to read and understand a new contract that aligns with the new consolidated scheme rules. The total time cost for manufacturers is calculated as 2 (hours to read and understand the new contract) x 450 (manufacturers) = 900 hours.*
- Purchase costs – Option 1 does not require business to purchase materials or equipment.
- Record keeping – Option 1 does not change the record keeping obligations of business.
- Enforcement – audits and inspections programs operated by the jurisdictions are expected to continue as usual under Option 1, so business will not incur any additional costs when cooperating with audits and inspections.

- Publication and documentation – the objectives, framework and scope of the WaterMark scheme will not change under Option 1 so Option 1 will not require any change to documents produced for third parties.
- Procedural – all proposals for improvement under Option 1 are administrative in nature, so businesses will not incur non-administrative costs.
- Other – no other compliance costs have been identified.

* *Note that the time costs for business to comply with education and permission issues, of 900 hours in each case, reflects the impact on 450 manufacturers. In contrast, the benefit of time saving from shorter and consolidated rules (see point 2.b above) reflects the impact on 460 entities – 450 manufacturers plus 9 CABs and JAS-ANZ.*

Competition Effects

Option 1 would impact generally across industry and without specific competition effects.

Would Option 1 affect the number and range of suppliers?

No. The option does not: grant exclusive rights, affect the ability of some firms to participate in public procurement, alter the costs of entry or exit or create geographic barriers to supply. The PCA does require standards that, when certified, do permit manufacturers to market their products; the options change some product standards to be achieved and these changes apply to all suppliers of the products.

Would Option 1 change the ability of suppliers to compete?

No. Option 1 would reduce costs, which could be reflected in lower prices, but the options would not control the actual prices charged by businesses. The option would not alter the ability of suppliers to advertise their products or alter costs of some suppliers relative to others. The option would change the standards for products and these changes would apply to all suppliers of the products.

Would Option 1 alter suppliers' incentives to compete vigorously?

No. The option would not create a self-regulatory or co-regulatory regime. The mobility of customers between suppliers would not be affected. Companies would not be required to publish company information. There would not be any exemptions from general competition law.

Consultation

Forty three submissions were received on the Consultation RIS. The submitters were:

Ai Group
Alliance Laundry Systems
Apex Valves
Clear Fresh
Consumer Electronic Suppliers Association
Galvin Engineering
GRO Agencies
GWA Bathrooms and Kitchens
Housing Industry Association
Kelly's Hot Water
Little Holland
Plumbing Industry Association of SA
Plumbing Industry Climate Action Centre
PPI Group
Property Council of Australia
Prove Standards Engineering
Rinnai
Studor
Waste Water Technologies
Australian Certification Services
IAPMO
SAI Global
Global Certification Services
Association of Hydraulic Consultants
Fire Protection Association of Australia
Institute of Plumbing Australia
Master Builders Australia
Master Plumbers and Gasfitters of WA
Master Plumbers and Mechanical Services Association of Australia
Master Plumbers Association of QLD
Master Plumbers and Mechanical Services Association of NSW
Plumbers Union QLD
Services Trades QLD
Mr Bob Mitchell
Mr Paul Day
Mr Stephen Burton
Commonwealth Department of Industry and Science
NSW Fair Trading
SA Office of the Technical Regulator
South East Water
TAS Building Standards and Occupational Licensing
VIC Building Authority
WA Building Commission

Answers to the Questions in the Consultation RIS

Comments from interested parties are summarised below under each question asked in the Consultation RIS.

Question 1: do you perceive the overall potential risks in plumbing and drainage installations in Australia to be relatively low, or very high as suggested by industry and regulators? What information or data from Australia indicate the overall potential risks?

There is widespread and common agreement amongst all sections of industry and government regulators that the overall potential risks in plumbing and drainage installations is high.

Question 2: do you have any comments on the current level of inspections and enforcement?

The government regulators describe their audit and inspection programs. One regulator mentions 9,000 plumbing inspections in the last financial year; and another provides an audit / inspection rate of 20% to 100% depending on council resources. Another regulator says it can easily identify and then issue rectification orders to the responsible plumber for the use of non-authorised products; however these actions are wholly dependent on the WaterMark stamp. Other regulators make similar statements about the implications of WaterMark for enforcement: with limited resources it would not be in a position to monitor the use of non-authorised products without WaterMark; and increasing budget pressures place greater emphasis on a rigorous product compliance scheme such as WaterMark to reduce the costs of compliance activity.

Industry would like to see better enforcement. The current levels of inspections and enforcement are not sufficient because there are many instances of product failure. This is not a WaterMark issue.

Question 3: do you consider that WaterMark successfully mitigates potential risks? How important is WaterMark relative to other factors that address the potential risks in plumbing and drainage installations?

The government regulators answered: yes, WaterMark is a key element in managing risk; WaterMark has been highly successful in mitigating potential risks by ensuring products met the PCA objectives. One regulator said WaterMark mitigates potential risks along with some other factors - auditing of installations; backflow prevention; training regulators, manufacturers and practitioners on requirements of the PCA.

A number of industry submitters saw WaterMark as: essential to mitigate potential risks and at least as important as other control measures; an effective role within a suite of mitigation measures; one element in the regulatory system, it has played an integral role in the regulatory system for several years; WaterMark cannot be considered in isolation from other factors in controlling risk.

Other industry submitters focussed on WaterMark: extremely successful due to low failure rates, with an assurance that products are safe when in contact with drinking water; confirms compliance and fitness for purpose and provides consumers with confidence that public health and safety are safeguarded; meets the key function of assuring product quality and safety; installers can instantly recognise whether a product has undergone appropriate certification, hence WaterMark ensures

that products are appropriately certified; plays a critical role is risk minimisation for the market; potential harms can take years to become apparent and so it is vital that products are certified.

One industry submitter indicated a case where WaterMark was unsuccessful - WaterMark should not apply to domestic appliances because it cannot be enforced.

Question 4: can you provide data or recommend published data that enables a more definitive description of the plumbing industry?

43 out of 43 submitters did not provide any data on the plumbing industry.

Question 5: do you have comments on the statement of the problem, that "the WaterMark product certification scheme is poorly targeted and imposes unnecessary costs on some manufacturers"? Do you have comments on the findings of the ABCB review that support this statement of the problem?

Government regulators commented that the criticisms of the current WaterMark scheme generally in this question were over-stated. While some aspects of the scheme are poorly targeted, this could not be said for the scheme overall. The range of WaterMark objectives – that are broader than the PCA Goal - were not seen as inconsistent with the PCA Goal (just health and safety) with the unstated implication that consideration of objectives, per se, did not provide any grounds for the scheme to be described as "poorly targeted". With regard to "duplication and overlap" of WaterMark with related certification schemes, one regulator commented that the schemes were independent with their own administrators, implying that any overlap was not obvious.

Industry generally disagreed that WaterMark is poorly targeted. Submitters did not necessarily see a conflict between the broader range of objectives of WaterMark compared with the PCA Goal; the broader range of WaterMark objectives were seen as appropriate for plumbing and drainage products. While not poorly targeted overall, some submitters commented that WaterMark could be improved and the risk assessment process tightened up so that some low risk products could be excluded from the scheme. Two industry submitters agreed that the WaterMark scheme was poorly targeted and imposed unnecessary costs on some manufacturers.

Individuals were split 1:1 on whether WaterMark was poorly targeted, with one submitter commenting that with a better risk assessment process WaterMark would not be poorly targeted.

A Commonwealth department suggested that the information about certification processes in Europe does raise the question as to whether, when compared to similar economies and regulatory systems, Watermark imposes an overly burdensome set of requirements that is disproportionate to the risks that it is seeking to manage. (Note that the information provided by stakeholders to Question 7 shows that comparable economies overseas do have regulatory systems that actively maintain product standards, so these regulatory systems would not appear to less burdensome than Australia.)

The department was also concerned about claims in the Meacham review that inspections are not being appropriately carried out. Yet there is little evidence to suggest that there has been significant product non-compliance identified. Given this scenario, it could be viewed that WaterMark is potentially overly burdensome and costly in respect of the potential risks it mitigates.

Question 6: do you have any comments on the findings of the Meacham review? Do you have comments specifically about the lack of likelihood in the risk assessment process, or the possibility of products being used outside their technical specifications and certification?

Government regulators disagreed with the Meacham review on some specific points. "Likelihood of risk" was defined in the risk assessment manual (contrary to the Meacham finding that risk assessment was undertaken as a consequence based process only); and inspectors do review technical specifications, implying that products are appropriate for the installations in which they are installed (contrary to the Meacham finding that monitoring was insufficient). One regulator commented that the use of products outside their technical specification is likely to be extremely limited as the plumber would be responsible for any failure that may result. Overall, however, the regulators believed that the risk assessment framework should be reviewed.

Industry in general considers that a consequence based risk assessment process works well. Some submitters suggest the skills and experience of plumbing systems designers and installers, and the sharing of product information by manufacturers, ensure that the correct products are selected for installations. Also, a professional who installs an inappropriate product would be aware of potential action that could be taken (an incentive to avoid installing inappropriate products). In contrast to this view, one CAB suggested that the operation of WaterMark means that it is not necessary for the certifier or installer to check the technical specifications for each product.

Two individual comments agreed that a consequence based risk assessment process was inappropriate. One submitter also suggested that plumbers, drainers and designers are trained to know what product is required for the type of installation. The designer will specify the products in an installation, and plumbers and drainers will source these products or equivalent that does the job. Inspectors do not need to go back to specifications.

A Commonwealth department supports the Meacham review and particularly the recommendation that for a rigorous risk assessment appropriate, weighting needs to be allocated to both consequence and likelihood of impact.

Question 7: can you confirm that enforcement of plumbing and drainage installations is more demanding in Europe than Australia? How important are the certification regimes in Europe, compared with enforcement activities, in ensuring products' fitness for purpose?

Stakeholders from all sectors responded with similar information. France and Germany have plumbing standards that are actively maintained with product standards. The UK plumbing standards are largely deregulated but it has a mandatory plumbing product certification scheme equivalent to Australia. One Australian manufacturer sells in Europe as well as in the Australian market: while some products do not require certification other products do so and the certificate process is similar to Australia. One UK manufacturer will certify its products under UK, European, USA and Australian product certification schemes, where WaterMark is equivalent to other international product approval schemes. One CAB suggested that certification costs in the USA and Canada were two to three times higher than Australia.

Question 8: which option do you consider most appropriate to ensure the fitness for purpose of plumbing and drainage products?

Overwhelmingly (38 out of 43 submitters) stakeholders preferred Option 1 – the enhanced WaterMark scheme – without a reduction in the coverage of product classes. Some submitters expressed this as a preference for the Status Quo, with the enhancements of Option 1 except for the proposed reduction in products.

Overwhelmingly stakeholders perceived Options 2, 3 and 4 as a group, with increasing levels of deregulation, and rejected them all.

Three submitters responded differently. One, who saw major risks in the water supply rather than products, advocated Option 3 – general certification. Another preferred Option 4 – quality assurance without certification – had also been concerned that WaterMark should not apply to appliances because it can't be enforced. Option 4 was also preferred by a supplier who perceived WaterMark as costly and unnecessary to achieve PCA objectives, and there were existing international standards which could be used instead of WaterMark.

A Commonwealth department commented that the Consultation RIS did not provide a clear cost-benefit analysis to identify what options enable benefits to exceed costs. More robust analytical information will need to be available before the department can give consideration to supporting a specific option.

Question 9: how effective do you consider civil liability regimes would be in ensuring the fitness for purpose of plumbing and drainage products?

Overwhelmingly stakeholders were highly critical of a reliance of civil liability regimes to ensure fitness for purpose of plumbing products.

Depending on a civil liability regime would be ineffective in ensuring the fitness for purpose of plumbing and drainage products. The time, effort and cost associated with civil legal proceedings around such technical issues as the standards regime will at times outweigh the re-certification costs – and will be borne entirely by the consumer.

Civil liability regimes would be completely unacceptable by the community. Civil liability regimes do not function as preventative measures ensuring product compliance. It is very difficult to sue and recover from an overseas manufacturer. Ineffective and unsuitable. Places the burden on the "victims" of non-compliant products who are unlikely to be well enough informed to take such matters to court and are equally unlikely to have the necessary finances to do so. Timeframe to address such concerns through civil liability frameworks could be excessively long. Ex-post action cost is generally much higher than the cost of ex-ante preventive action. Ex-post action also means a much higher rate of inconvenience to consumers as they address issues with products though the court system.

Civil liability regimes are reactive only; they cannot deliver a reliable outcome where public health is an issue. Would be high cost, deliver inconsistent outcomes, disenfranchise consumers when products fail and will not safeguard public health or amenity. Overseas manufacturers are difficult to pursue in an Australian court. Much of the building industry is made up of small businesses

without the time or resources to pursue expensive litigation. Civil liability regimes would be very ineffective. A faulty product may be found years after installation, when it would be difficult or impossible to identify the source of the product and make anyone accountable. The responsive nature of civil litigation and time delay increases the risks of potential damage to community health and property from poor quality products and extends exposure. Access to civil litigation is not, in a practical way universal, with the costs (time and money) being prohibitive for many, especially household consumers.

Two submitters supported civil liability regimes: being very effective for appliances; and civil liability exposure of builders in the UK and Europe has focussed their attention on the certification and the quality of products used in buildings.

Question 10: do you have any suggestions how the enforcement arrangements could be enhanced to give greater weight to inspections?

Support from one regulator and a number of industry submitters for enforcement to occur at point of sale, in contrast to enforcement currently at point of installation of products. The level of inspections will continue to decrease and point of sale regulation would deliver an efficient inspection outcome. One regulator opposed this view.

Industry also suggested that the best way to enhance enforcement is to increase the number of inspectors. However, one CAB responded that the question is irrelevant and that it supported the current 5% inspection requirement. One regulator referred to its rigorous and effective inspection regime (at 5%), but warned against over-reliance on inspections to assess appropriate products for each installation. It would be more efficient and effective to address the risks at the front end of the regime than to shift the burden towards the back end - prevention is more effective and better than having to rectify an issue that has occurred. Enforcement arrangements should be seen as an essential companion to, but not a substitute for, the WaterMark scheme.

Question 11: are you aware of any means by which an inspector could identify contaminants in the material composition of a plumbing product?

The unanimous view of submitters is that: contaminants in a plumbing product can only be identified through laboratory testing. There are no practical means by which an inspector could do it.

Question 12: should any other stakeholders be included in this list? Do you have any comments on the reasons why these stakeholders will or will not be significantly affected by the options?

Most submitters either had no comment or agreed the list adequately covers all stakeholders.

Two regulators mentioned hydraulic consultants, as they will have an additional burden in establishing which products are included in the scheme. An industry association suggested the insurance industry; a building association suggested builders; and another industry association suggested enforcement, hydraulic consultants, laboratories and retail outlets would be affected.

Question 13: do you have any views on the extent to which the WaterMark scheme could become smaller and better targeted? Does a 30% reduction in the number of products seem about right, or should the reduction be greater / lesser? Which product classes might be excluded?

A number of industry submitters agreed that WaterMark could become smaller and better targeted and some considered a 30% reduction to be about right. In contrast, a larger number of submitters including the regulators disagreed with a large reduction in the scope of the scheme; many of these submitters also commented on lower risk products, suggesting: (1) they should be subject to less rigor for certification; or (2) they could be re-assessed via an updated risk assessment process and some could be removed from the scheme – perhaps about 5% to 10% of products.

A Commonwealth department does not support what it sees as an arbitrary target percentage reduction in products (an estimate of 30% possible reduction in the coverage of the scheme was provided in the Consultation RIS) but supports application of the Meacham risk assessment process for all products considered for inclusion in the Watermark scheme.

Question 14: is industry willing to pay an additional $450,000 per year for administration by the ABCB?

Government regulators supported full cost recovery from industry of an additional $450,000 per year. Industry generally supported full cost recovery, with some submitters asking that the actual amount be clarified. A small number of industry submitters opposed any cost recovery.

A Commonwealth department only supported full cost recovery if it does not increase the current cost burden on industry. Any cost recovery should occur within the existing WaterMark funding envelope and not impose further cost to industry. The department suggests improvements in business processes and administrative efficiencies as opposed to automatically passing on additional costs to industry to cover the ABCB's current administration costs. The department is concerned about cost increases that smaller businesses cannot meet, affecting their long term viability and reducing industry competition, and the risk of non-compliance if businesses struggle to meet the increased cost burden.

Question 15: do you have comments on the impacts of Option 1?

Many submitters repeated their preference for Option 1. There was widespread agreement that improvements to WaterMark would be desirable and make a difference to the efficiency and effectiveness of the scheme, particularly the application of improved risk assessment. A number of submitters presented their own list of improvements that could usefully be made, that were somewhat different to other submitters and the ABCB.

A Commonwealth department suggested that the concerns in the Meacham review and from industry about the current lack of compliance checks should be addressed in relation to the statement in the Consultation RIS that there would be no change in enforcement under Option 1.

Question 16: do you have comments about a voluntary WaterMark scheme? Could a voluntary scheme better reflect industry's understanding of high risk products with only the high risk products remaining in the scheme? Do you have comments on the impacts of Option 2?

Overwhelmingly, stakeholders considered Options 2, 3 and 4 as a group, identified these options as deregulatory and rejected them. This view mirrors the overwhelming support for Option 1.

For Option 2, most stakeholders considered a voluntary WaterMark scheme to be unsustainable and expected it to fail. Many manufacturers would opt out. The failure of the CodeMark scheme (where only a fraction of building suppliers subscribe to it) demonstrates the failure of such voluntary schemes. Option 2 is not a viable or workable option and delivers an extreme level of risk to the public. Any non-mandatory scheme will fail. One CAB offered a different view – in a voluntary environment the marketplace will determine participation and the scheme will become mandatory by default (essentially saying that, for commercial reasons, all manufacturers will stay with WaterMark for all products).

As many manufacturers opt out there would be a drop in participants in the voluntary scheme, leading to an increase in the cost to individual companies in administration charges as fixed overheads are distributed amongst a smaller group of licencees. Certifiers that rely solely on income from WaterMark would be put out of business rapidly. A voluntary scheme would end up resembling CodeMark in terms of participants.

A voluntary scheme could have the effect of rendering the WaterMark stamp as something less than authoritative, and lead to confusion in the market and the general public about the voluntary scheme, particularly if only some designated "high risk" products remained in the scheme. Some stakeholders perceive a voluntary scheme as prone to abuse.

There is widespread concern amongst stakeholders in moving away from mandatory WaterMark into a deregulated environment without WaterMark – for the many products that are expected to be no longer covered by WaterMark. It would be naïve to assume that suppliers would still have products independently tested and inspected. Some manufacturers will simply sell inferior products. The general public will be unaware but they will be exposed to health risks, poor performing products and their safety will be compromised. Lower levels of verification will be permitted for all plumbing and drainage products, and health and safety objectives may not continue to be achieved.

Overseas manufacturers may declare that their product is fit for purpose but if it turns out that is not the case it will be extremely difficult to take effective enforcement measures. The lack of readily available credible and trustworthy information will result in significant information asymmetry over time which will result in an increase in non-certified products entering the market. If a WaterMark stamp is not available on the plumbing product/material, plumbing practitioners and regulators will need to spend more time and resources to determine if the product is certified, adding to the compliance burden. Policing non-compliant product will be all the harder. It would impose on practitioners – many of whom are small businesses with limited resources – the unprecedented burden of confirming for themselves that every product/material is suitable and meets the fit for purpose requirements.

A Commonwealth department, in considering the impacts of Option 2, expected enforcement activity could change, with a potential increase in the cost of compliance imposed by regulators; as the jurisdictions would have reduced reliance on a mandatory Watermark and could impose additional compliance requirements.

Question 17: do you have any comments about the compliance costs or the possible product failure rates that could occur under Option 3? What information supports your view?

Some stakeholders responded to this question and suggested that compliance costs and product failure rates would be higher under Option 3 – general certification – than under the current WaterMark scheme. Moving away from a permanent WaterMark marking to an attached certificate is not practical. The onus would shift to the plumbers and site mangers to retain paperwork rather than on manufacturers to ensure products are permanently marked and increase compliance costs in all sectors of the plumbing industry. Option 3 would shift the compliance burden from WaterMark to the regulators and increase compliance costs. Surveillance levels would decrease under Option 3, hence the chance of certification identifying non-compliances would also decrease, resulting in greater levels of non-compliant product. Under this option, will certificates be attached to the products themselves? Will plumbing practitioners be required to keep records or copies of the certificates in order to prove the materials were fit-for-purpose at the time of installation? If so, for how long? The option would impose a new layer of administration on small and medium businesses and add significantly to the complexity and cost of compliance for both the industry and regulators.

A Commonwealth department commented that enforcement and business compliance costs would change as a result of implementing Option 3, specifically: notification (as WaterMark would no longer exist); education (as industry would need to be appropriately advised of changes to requirements); purchase (as manufacturers would be required to provide proof of products being fit for purpose); and enforcement (as there would be an increased compliance burden for states and territories undertaking compliance checks, which in turn is likely to increase compliance costs for industry).

Question 18: do you have information annual fees charged by JAS-ANZ and the CABs? Can you confirm that the CABs do not charge annual fees?

The ABCB has accepted advice from JAS-ANZ that the total annual fees it receives under the WaterMark scheme are estimated to be $200,000.

One CAB indicated that its annual fee was, on average, $3,942 and, with 1,366 level 1 licences in the scheme the total annual fees paid to CABs would be $5,384,772. Allowing for a marginal error of 20% could increase total annual fees paid to CABs to $6,461,726. The annual cost of re-certification of a level 1 certificate is $130, so total cost of re-certification of level 1 certificates by all CABs each year would be $177,580. The annual cost of re-certification of a level 2 certificate is $600, so with 334 level 2 certificates, the total cost of re-certification of level 2 certificates by all CABs each year would be $200,400. Allowing a 20% margin for error gives total annual re-certification costs of $453,576. Total annual fees paid to the CABs would be $6,461,726 plus $453,576 which equals $6,915,302.

Another CAB indicated that a common annual fee would be $4,500 to $5,000 (excluding GST). A second and subsequent licence to the same manufacturer may attract a lower annual fee of $2,000. This CAB believes that these prices are lower than in the USA and Canada by a factor of two to three times.

Question 19: do you have information on the fees charged by the CABs for re-certifying existing products? What proportion of products would be re-certified every 3 years compared with products re-certified every 5 years?

The CABs advise that currently there are no fees to re-certify existing products where the standard has not changed and the standard does not mandate any re-testing.

A fee for review and assessment of products may be charged whereby the standard has changed and/or the standard requires the products to be re-assessed at regular intervals. The certification fee for this service is very minor and is usually be between $300 to $900 at one CAB.

Standard certification lifespan is 5 years for level 1 products. For level 2 products the certification is renewed after the client re-applies for certification, every three years. The client is required to pay a fee for the re-certification and this is currently $1990 at one CAB.

Question 20: do you have comments on the impacts of Option 3?

Overwhelmingly, stakeholders considered Options 2, 3 and 4 as a group, identified these options as deregulatory and rejected them. This view mirrors the overwhelming support for Option 1.

A situation where all products all would be certified under the general PCA certification provisions and no products would be certified by WaterMark would likely result in a shift of certification responsibilities from WaterMark on to state based regulatory agencies, which may or may not have the capacity and resources to competently manage certification processes, leading to an increase risk of system failure and therefore to public health. It is unrealistic for regulators to expect industry professionals to suddenly become aware of 'fit for purpose' matters which historically have been assessed by WaterMark. It would simply shift the costs further down the line to be carried by plumbers, builders, certifiers and owners. Removing the WaterMark assurance of quality would have an impact on plumbers' public liability insurance premiums and create insurance issues for consumers.

To adopt Option 3 will result in major regulatory burden and excessive red-tape to the construction industry by having to demonstrate compliance by having to submit other forms of evidence of compliance. Designers, architects and plumbers would lose valuable time and productivity whilst endeavouring to identify product compliance without being able to rely on the recognised WaterMark logo resulting in costs being passed on to the consumer.

The replacement of a neat, permanent WaterMark logo with an attached certificate will be messy, time consuming and impractical for many smaller WaterMarked products. Separate certificates will need to be kept for the life of the product for traceability purposes and will increase administrative costs for the end user.

There are concerns with the ability of this option to achieve the desired outcome of ensuring that plumbing products and materials installed are fit for purpose. A certificate would be attached to the product, yet this is not readily enforceable and not always practicable. Many plumbing products/materials are small and sold as individual components in stores where it's doubtful a certificate could be reliably attached. Record keeping will increase. Will the proposed certificates be of a uniform design? Will they be attached to the products themselves? Will plumbing practitioners be required to keep records or copies of the certificates in order to prove the materials were fit-for-purpose at the time of installation? If so, for how long? Which party, the retailer, the practitioners or the consumer will be responsible for retaining the certificate after the product is installed to demonstrate suitability to the regulator?

Naïve to assume that suppliers would still have products independently tested and inspected. Lead to disruption and confusion and products entering the market that possibly would not be fit for purpose.

Question 21: can you design an enhanced enforcement regime that would be suitable for Option 4?

One regulator believes that certification and enforcement are mutually reinforcing mechanisms and one without the other is of limited effectiveness. Currently it has not been considered whether there is support or capacity to absorb an expanded regulatory role.

Another regulator responds that inspections and enforcement could be improved, however, the current environment of regular budget constraints and deregulation places greater responsibility on industry and end user funded product certification systems.

A manufacturer feels that it would be difficult. If extra cost is going to inspections then this will wipe away the saving made by scrapping the WaterMark scheme. Having an enhanced enforcement regime does nothing to assist installers and end users in making informed decisions when selecting products to purchase and install. Shoddy manufacturers and suppliers will end up spending resources on marketing and advertising and take it away from the development and compliance of good quality products.

Question 22: are* ex post *measures such as civil liabilities actions sufficient to address exposure to chemical contamination and lead in drinking water?

Stakeholders rejected this proposition. Civil liabilities actions are clearly insufficient and inappropriate for addressing exposure to chemical contamination and lead in drinking water. Where product failure results in chemical contamination or lead in drinking water, the impact on public health and safety may not be identified until it's too late. Therefore, the ex-post nature of civil liability actions may be too late for those directly affected. Contamination of water supplies would have far worse consequences for the community than adverse legal outcomes. Ex-post measures are not sufficient to address exposure to chemical contamination and lead in drinking water. This is because the damage has already been done.

Chemical contamination and possible poisoning of consumers may take many years to develop. Proving that a particular product is at fault will be very difficult considering WaterMark will have been removed from products and when we consider the number of plumbing products an occupant

may use over several years. We would expect civil actions to take many years to be resolved at great cost to individual end users and manufacturers/suppliers.

Question 23: do you have comments on the impacts of Option 4?

Overwhelmingly, stakeholders considered Options 2, 3 and 4 as a group, identified these options as deregulatory and rejected them. This view mirrors the overwhelming support for Option 1.

Under Option 4 there is no way to verify that products and materials are fit for purpose, with the likely outcome that Australia will become a dumping ground for poor quality products. This option is not viable. Option 4 is clearly unacceptable. There is no independent confirmation that the plumbing and drainage products are fit for purpose. It cannot be confirmed whether testing took place, whether the testing laboratory that conducted the testing was accredited to undertake such testing, whether the product passed the test, whether the tests undertaken are the appropriate tests and whether all required tests have been undertaken.

Risks posed by plumbing products entering the market with no third party certification of their fitness for purpose is unacceptably high. It is unlikely that manufactures will be held liable in the short term due to length of process. Instead it is more likely that action will be taken against industry professional on matters for which that are not currently responsible for. Option 4 only delivers a path to rectification through high cost civil action. This approach is just not workable; it cannot safeguard public health, safety or amenity.

Concern about the compliance burdens of education. Option 4 would impose high additional information requirements on manufacturers, installers and regulators to ensure that products are fit for purpose. It is unclear how manufacturers, installers and regulators are expected to obtain this knowledge.

Consumers attempting to take legal remedies will find the process more costly, with the likelihood that many will give up due to the legal complexities associated with taking civil action. It will be a matter of potentially prolonged dispute as litigants will need to prove that the defect is due to the product/material itself.

A Commonwealth department commented that the enforcement and business compliance cost considerations would be the same as for Option 3.

Question 24: do you consider that any option would affect the ability of any participant in the plumbing and drainage sector to compete in the market?

Some stakeholders did not identify any competitive effects of the options.

However, some other stakeholders suggested Options 2, 3 and 4 would create an incentive for non-compliant products, exploited by some unscrupulous traders, with negative competitive effects for the market. This undermines the capacity of compliant traders to compete on a level playing field. Supply of non-compliant product would increase under Options 2, 3 and 4 giving businesses supplying non-compliant products an unfair commercial advantage over businesses supplying compliant products, resulting in a lessening of competition.

Question 25: do you have information that would inform the consideration of new product testing costs? Do you have information on the fees charged by the CABs or new product assessments?

One CAB advises that testing fees for a new level 1 product would be in the region of $6,000 and $1,000 for a new level 2 product. The average cost for assessment of a new product by a CAB would be $500.

Another CAB indicated new product testing costs ranging from $800 to $25,000 with an average testing cost of $5,471.43. If 500 new products are tested each year the total annual testing cost would be $2,737,215. The CAB does not charge a new product assessment fee as it is contained in its application fee.

Another CAB advised that the most commonly certified product is tap-ware (AS/NZS 3718). A single range of mixer tap-ware will cost $8000 to test. This exceeds the cost of certification, which may range from $3500 to $6500 depending on the location of the factory. In most certification projects the cost of testing far exceeds the cost of certification. It is not un-common to spend $20,000 – $40,000 dollars on testing. Application fees charged by the CAB cover the costs of assessment of the products, audit fees, travel costs and other expenses. A typical application for certification would be charged between $5000 and $6000 for a level 1 licence. A level 2 licence would be charged between $1990 and $3400 for a certification, which lasts 3 years.

One test laboratory suggested testing may not be undertaken in Australia under Options 2, 3 and 4.

Conclusion

In the Consultation RIS the problem was described as "the WaterMark product certification scheme is poorly targeted and imposes unnecessary costs on some manufacturers". The statement of the problem has now changed to "there is no indication of a fundamental problem with WaterMark in its role of ensuring that plumbing and drainage products are fit for purpose". However, some operational issues remain where the WaterMark scheme can be improved and in turn better clarify and target what products are appropriately captured by the Scheme.

The primary objective is to ensure that every part of a plumbing or drainage installation uses materials and products that are fit for the purpose for which they are intended. A secondary objective in the Consultation RIS was that products satisfy the objectives of the PCA Goal: of safety, health, amenity and sustainability.

The Consultation RIS investigated the possibility of WaterMark becoming a more focussed scheme, narrowing its scope to cover those products exposed to health and safety risks. Now the existing WaterMark objectives are largely retained and the scope of the scheme will not significantly change. The existing WaterMark objectives, with some clarification, can be considered to be supporting the objectives of the PCA Goal.

Four options were presented in the Consultation RIS: Option 1 an enhanced WaterMark scheme focussed on health and safety risks and also operational issues with the scheme; Option 2 a voluntary scheme; Option 3 quality assurance via general certification; and Option 4 quality assurance without certification.

Option 1 now focusses primarily on the operational issues, which through changes to risk methodologies and clarification of objectives will influence the range of products over time and reduce the likelihood of scope creep. Option 2 the voluntary scheme was considered overwhelmingly by stakeholders as being unsustainable and reducing in coverage to the levels of the CodeMark scheme, a voluntary scheme for building products which is trivial compared with the current WaterMark scheme. Option 2 from the Consultation RIS would not be a viable option. Options 3 and 4 from the Consultation RIS are focussed on efficient quality assurance but do not address the problem as currently described – they do not provide any indication of how to address the operational issues with WaterMark. As such Options 3 and 4 could be considered a disproportionate response to the problem, as currently described, and an inappropriate response because the operational issues are not addressed. Options 3 and 4 from the Consultation RIS are not viable.

Option 1 – improving the WaterMark scheme – does address the problem, can address the objectives, and by addressing the operational issues will improve the WaterMark scheme. The costs of addressing the operational issues are small and the improvements are worthwhile. Normally government activity to monitor the implementation of programs and policies and to rectify administrative issues as they arise would be regarded as business as usual. Hence there is little difference in this case between Option 1 and the Status Quo. The Option 1 / Status Quo is supported.

Implementation and Review

Subject to a decision by the Building Minsters' Forum, anticipated around the middle of 2015, an improved WaterMark scheme would complete implementation by 30 June 2016. Individual products would be affected by the improvements when they are re-certified, with those products that have just been certified possibly being unaffected by these changes for up to five years.

The consideration of options to ensure that plumbing and drainage products are fit for purpose, follows a major review by the ABCB of the WaterMark certification scheme; the only review in the past ten years. The ABCB does not contemplate another major review in the short term but will monitor developments over the next three years as part of its role in managing the implementation of improvements to the WaterMark scheme and the outcome of the WELS review.

Implementation at Point of Sale

The Watermark scheme currently applies at the point where plumbing and drainage products are installed to or within buildings. It is the responsibility of the plumber to use products bearing the WaterMark stamp, as appropriate, and for the regulators to confirm appropriate products are being installed through audits and inspections.

Comments on the Consultation RIS on possible improvements to the Watermark scheme included suggestions that it apply at point of sale. There is strong support across industry and also from some regulators for WaterMark to apply at point of sale. In an environment where industry has been critical of declining rates of inspections, it is seen as an efficient focus for enforcement. "If we are looking for an efficient regulatory tool, then point of sale is critical and should be considered."

In its own right the ABCB is not able to implement such a course of action, as it would involve changes to State and Territory regulations. The matter will be raised with the Board; however it needs to be fully assessed to determine whether there is a case to include as part of the compliance regime for the WaterMark scheme.

Administration

During the Consultation RIS public consultation period, the ABCB informally raised the prospect of outsourcing the administration and management of the WaterMark scheme. The matter will be considered by the Board. If benefits can be demonstrated, including possibly reduced costs of administration, then the Board may refer the matter to the Building Ministers' Forum for decision.

Attachment 1

Suitability of Plumbing and Drainage Products

The Plumbing Code of Australia (PCA) requires that every part of a plumbing or drainage installation must use materials and products that are fit for the purpose for which they are intended. Evidence that these materials and products are suitable can be provided by:

1. A certification mark issued in compliance with the WaterMark Certification Scheme, following a risk assessment; or

2. General certification for materials and products that, following a risk assessment, are not included in the WaterMark scheme – a report issued by a recognised expert; a certificate from a professional engineer; or another form of documentary evidence.

Most plumbing and drainage materials and products provide evidence of suitability with a certification mark issued in compliance with the WaterMark scheme.

How WaterMark ensures Materials and Products are Fit for Purpose

WaterMark covers materials and products that are used in plumbing and drainage installations to and within buildings. WaterMark does not cover water supply – the collection of water in reservoirs and distribution of water throughout urban settlements, which is the responsibility of the water utilities.

The objectives of WaterMark are listed in Part G of the PCA, to:

a) Provide a process to authorise materials and products to enable their use in plumbing and drainage installations; and

b) Ensure that plumbing and drainage materials and products are fit for purpose and their use in plumbing and drainage installations does not create significant risks of:

   i. Personal illness, loss, injury or death

   ii. Environmental degradation

   iii. Contamination of the water resource

   iv. Adverse impact on infrastructure

   v. Contamination of water supplies

   vi. Wastage of resources (water and energy)

   vii. The inability of a material or product to function as intended

These objectives are broader in scope that the Goal of the PCA – *to enable the achievement of nationally consistent, minimum necessary standards of relevant safety, health, amenity and sustainability objectives efficiently*. The objectives of safety and health are supported by the Part G

objectives that address the risks of: personal illness, loss, injury or death; contamination of water supplies (within buildings); and the inability of a material of product to function as intended.

WaterMark achieves its objectives by ensuring that materials and products demonstrate their fitness for purpose in accordance with the principles of ISO/IEC Guide 67. This includes demonstrating compliance with relevant Australian standards. Any new or innovative material or product that will convey drinking water is required to comply with AS/NZS 4020, which specifies testing procedures to determine the composition of materials. Materials and products that comply with AS/NZS 4020 will not pose a risk of leaching hazardous chemicals into drinking water.

The process of WaterMark certification requires manufacturers - of materials or products for plumbing or drainage intended for installations in Australia - to make an application demonstrating their materials' or products' fitness for purpose to a WaterMark Conformity Assessment Body (CAB). The CAB will follow procedures indicated in WaterMark reference documents to determine whether the materials or products are fit for purpose. This will include the CAB being satisfied that all relevant standards have been complied with and all relevant tests have been undertaken. When a CAB determines that a material or product is fit for purpose it then authorises the manufacturer to use the WaterMark certification stamp on that material or product.

The CABs are subject to oversight by JAS-ANZ, to maintain high standards of technical competency of the CABs, and overall administration of the scheme is provided by the ABCB. The owners of the scheme are the Governments of each State and Territory and the Commonwealth.

The WaterMark scheme, and all plumbing regulation in the PCA, is implemented through legislation of the States and Territories.

The WaterMark scheme applies at point of installation, when a plumbing or drainage installation is assembled. It is the responsibility of the plumber and drainer to use products that are fit for purpose. Each State and Territory Government enforces the scheme through a program of audits and inspections. For the plumbers / drainers and regulators, the visible WaterMark stamp is an aid to ensuring that the products in each installation are fit for purpose.

How WaterMark contributes to Safe Outcomes

Australian occupants of buildings experience a very high degree of safety in terms of drinking water and the operation of water installations. Publicised instances in Australia where safety has been compromised are rare. There is no data series in Australia about injuries or fatalities due to inadequate water systems in buildings, and hence no quantifiable evidence of safety concerns.

This very high degree of safety in Australia contrasts with outcomes in less developed countries where fatalities from contaminated water run into the millions. The World Health Organisation / World Plumbing Council report of 2006, *Health Aspect of Plumbing*, describes fatalities that have occurred when water becomes contaminated. There are two principal sources of contamination: (1) chemical, where chemicals in the materials of products that convey drinking water are leached into the water, that are hazardous to people; and (2) bacterial, where the integrity of the water supply or installations is breached and water comes into contact with infectious material, which is hazardous to people. Hence the consequences of water becoming contaminated can be severe.

WaterMark specifically addresses the chemical and bacterial risks of products used in installations within buildings, and so would be contributing to Australia's very safe outcomes. However it should be acknowledged that WaterMark is one element of a broader regulatory system and that some non-regulatory factors are relevant.

There are three sets of regulation that are complementary and combine to ensure the safety of plumbing and drainage installations to and within buildings.

- The materials and products are fit for purpose – as certified under the WaterMark scheme and referenced in the PCA.
- The products are correctly assembled in plumbing and drainage installations – as described in relevant Australian Standards and referenced in the PCA.
- The education and skills of plumbers and drainers – as supported by tailored training courses offered by the States and Territories, the issue of licences to plumbers and drainers when their training is complete, and the requirement that a licence must be obtained for a person to work as a plumber or drainer.

There are also a number of non-regulatory factors that are relevant to the very safe outcomes in Australia.

- The quality of the water delivered to buildings by the water utilities.
- The high standard of education in Australia, that supports the training of plumbers and drainers and also: the designers of products, to satisfy the fitness for purpose criteria; the staff in laboratories who have the technical competence to run relevant tests; staff in JAS-ANZ and the CABs who have appropriate technical competencies; and staff of the manufacturers.
- The commercial incentives on manufacturers of plumbing and drainage products, to maintain market share through reputation and satisfy general or niche demands for products.
- Civil liability frameworks that can provide for redress when products have failed.

This system of regulatory and non-regulatory factors is effective in delivering very safe outcomes for Australians. As most factors are complementary to each other, the question of apportionment does not arise – how much each factor contributes to the whole. Instead, the complementary and different contribution of each factor should be acknowledged. In relation to WaterMark, its role in ensuring materials and products are fit for purpose is vital, although it is one vital role amongst many.

Attachment 2

Issues with the WaterMark Scheme

Administration of the WaterMark scheme transferred to the ABCB in February 2013. The ABCB then conducted a detailed review of the scheme in consultation with stakeholders and published its findings in January 2014. The review found several matters where improvements could be made. It appeared that insufficient resourcing of the scheme administrator over many years had meant that a number of important issues had been ignored.

Risk Assessment

Risk assessment is undertaken by the CABs and involves evaluating materials and products for certification. The problem is that there is no clear specification of the risk assessment process so there is no way for each CAB to deliver an evaluation that is consistent with other CABs.

A review of the WaterMark risk assessment process by Meacham[1] found:

1. A mismatch between the WaterMark objectives and the NCC's focus on health and safety allows the breadth of risk control measures under WaterMark to go beyond the scope of the NCC.

2. The WaterMark risk assessment process, while referencing risk assessment principles, is in fact implemented as a consequence-based process. This is inappropriate to the stated risk assessment objectives of WaterMark. When assessing risk it is necessary to consider both the expected consequences and likelihood.

3. Monitoring of new installations by regulators is insufficient to ensure that products which carry a WaterMark stamp are installed in such a way that is fit for purpose in each installation. Inspectors are not going back to the technical specifications for each product, so what certainty is there that the appropriate product is being used?

Compliance

WaterMark includes 38 different reference documents for stakeholders to follow. Several include strict procedural requirements for product certification and others for the development of technical specifications. The fragmented structure, inconsistent language, duplication and contradictions across the many documents results in difficulty for many stakeholders to comply in a consistent manner and maintain every element required for compliance. Descriptions of the roles and responsibilities of stakeholders within the scheme are fragmented amongst the many reference documents, creating a problem for some participants where their required duties are not perceived nor undertaken.

[1] Meacham Associates (May 2014) *Review of the Appropriateness of the Risk Assessment Process as Embodied in SAA MP78 (1999) with Respect to Recognised Risk Assessment and Management Processes, the Risk Management Objectives of the WaterMark Certification Scheme and the Objectives of the National Construction Code.*

Administration

Documentation of internal and external operational procedures is inadequate to enable a reasonable accountability of participants in the scheme.

The current funding arrangement, that supports administration of the scheme, is unreliable and makes accurate financial projections impossible. Current funding is derived from royalties on the revenue CABs gain from undertaking work for the scheme. However the extent of work undertaken in the scheme cannot be validated by the administrator, and there is considerable variation in the interpretation of what should attract the royalty and in the fees and charges imposed by the CABs for undertaking work in the scheme.

The scheme database is compromised to the extent that it does not allow verification of royalty amounts due to the scheme. Not all database search functions work or provide sufficient or accurate information for stakeholders. There is also inconsistency between CABs in the information provided and the way they upload information to the database.

The current funding arrangement does not provide a sustainable basis for administering the scheme. Current receipts of $200,000 per year are inadequate to support proper administration. Previous reviews of the scheme indicated a lack of strategic direction, ineffective administration and poor enforcement – all due to insufficient resourcing.

Specification Development

A new innovative product may not be covered by existing specifications of the WaterMark scheme. In this case a new technical specification will be developed. In developing a new technical specification three references should be consulted – the PCA; the *Manual for the Assessment of Risks of Plumbing Products*; and *Procedures for Developing Technical Specifications* – and the problem is that these references are inconsistent, which leads to uncertainty and ambiguity about what is required.

Linkages with Other Schemes

WaterMark has operated in Australia in various forms for several decades. Recently two similar or related schemes have been introduced. There is an opportunity to improve the efficiency of administration of all schemes if linkages can be established between them. Note that the schemes all have different objectives and procedures so the opportunity to explore linkages does not necessarily mean that the linkages can be achieved. This is not a problem with WaterMark, rather an opportunity to achieve more efficient administration of all schemes. The other schemes are: CodeMark Certification Scheme (CodeMark), administered by the ABCB; and Water Efficiency Labelling and Standards Scheme (WELS), administered by the Commonwealth Department of Industry.

Objectives

The Consultation RIS considered that some the objectives of the WaterMark scheme did not align with the Goal of the PCA nor assist the Board to deliver its mission under the ABCB Inter-Government Agreement. The scope of products included in the scheme was considered to be broader than necessary to achieve the objectives of health and safety. The Consultation RIS included an estimate that around 30% of products may not deliver health and safety outcomes.

The ABCB has thoroughly examined the objectives of the WaterMark scheme, has sought advice on this matter from a working group of representatives from industry and government regulators and also considered the comments on this matter contained in submissions on the Consultation RIS.

The ABCB now considers that the objectives of WaterMark as documented in Part G of the PCA are appropriate. The ABCB considers that continuation of the WaterMark objectives does not imply any change to the scope of products covered under the scheme.

Attachment 3

Background

The Australian Building Codes Board (ABCB) assumed responsibility for the WaterMark Certification Scheme (WaterMark) on 25 February 2013, at the direction of the Building Ministers' Forum. The ABCB subsequently undertook a broad ranging review of the WaterMark scheme, including extensive consultation with stakeholders, and in January 2014 released the findings of its review in a pubic consultation document. In February 2014 the Board considered the findings of the review, indicated its support to improve key elements of a mandatory WaterMark scheme and agreed to establish a working group to assist the ABCB in developing those elements in detail. The Board also asked that a cost benefit analysis be undertaken on the changes to the scheme.

A cost benefit analysis was prepared by the ABCB and included in a Regulation Impact Statement (RIS), for consultation, entitled *Options to ensure that plumbing and drainage products are fit for purpose*. The Consultation RIS was released in September 2014.

Information on the Plumbing Industry

Information on the plumbing industry has been collated from a variety of sources. There is no definitive source of plumbing industry data – indeed all 43 stakeholders who commented on the Consultation RIS were unable to provide any data on the plumbing industry.

The WaterMark database indicates that there are around 450 manufacturers of plumbing products supplied to the Australian market. The proportion of overseas manufacturers is greater than 50% and one stakeholder suggests the proportion is about 75%.

The NCC subscriber database indicates there would be about 60,000 practitioners in the industry – about 1,500 hydraulic consultants and the remainder (58,500) plumbers and drainers.

Plumbers and drainers acquire products to be installed from industry supply outlets and may also source some products from retail hardware outlets.

Cost of Certification Activity

The ABCB has accepted advice from stakeholders on the cost of certification activity, from:

- JAS-ANZ on an estimate of revenue it receives under the WaterMark scheme.
- The CABs, on an estimate of their annual cost of operations, using comprehensive data from one CAB that is consistent with information from the other CABs.
- The CABS, on estimates for the costs of testing and assessing new products, using comprehensive data from one CAB that is consistent with information from the other CABs.

The annual cost of operating the WaterMark scheme is detailed below.

Table 1 – Annual Cost of WaterMark Operations

JAS-ANZ	$200,000
CABs - Level 1 products	$6,461,726
CABs - Level 2 products	$453,576
	$7,115,302
Cost of Administration by the ABCB	$650,000
Total Cost of Annual WaterMark Operations	**$7,765,302**

Note that the annual cost of administration by the ABCB is currently funded $450,000 by the ABCB and $200,000 by the CABs (and ultimately from industry).

These annual costs cover ongoing WaterMark operations, by: JAS-ANZ, in ensuring the CABs accreditation remains up to standard; the CABS, in their continuing surveillance of manufacturers to ensure that the manufacturing processes continue to support products that are fit for purpose, as recognised in the annual renewal of licences; and continuing administration and management of the scheme by the ABCB. The present value of the total cost of WaterMark operations, calculated over a 10 year period with a discount rate of 7%, is $58,358,000.

The cost of testing and assessing new products each year is detailed in the table below.

Table 2- Cost of Testing and Assessing New Products, each year

Average testing cost per product	$5,471
Testing 500 new products	$2,735,500
Cost of CAB assessment, per new product	$500
Cost of CAB assessment of 500 new products	$250,000
Cost of Testing and Assessing New Products, each year	**$2,985,500**

Note that 500 new products are assumed to be tested and assessed each year, which is equivalent to 1% of all existing products. Testing and assessing new plumbing products and materials is required under the PCA to demonstrate that all plumbing products and materials on the market are fit for purpose. The present value of testing and assessing new products, calculated over a 10 year period with a discount rate of 7%, is $22,436,700.