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Submission – Inquiry into the Regulation of Plumbing Product Quality in Australia

Prepared by Caroma Dorf

August 2007

Caroma Dorf have prepared this submission in response to the Inquiry into the regulation of plumbing product quality in Australia by the House Standing Committee on Environment and Heritage. As a significant bathroom industry stakeholder, Caroma Dorf welcomes the opportunity to assist the committee by providing our comments on the regulation of plumbing product quality in Australia. Caroma Dorf has an annual turnover in excess of \$400 million and is the only remaining vitreous china sanitaryware manufacturer in Australia.

Overview

In this submission Caroma Dorf has undertaken to provide the committee with a holistic review of the regulation of plumbing product quality in Australia.

Part 1 of our submission has been prepared to follow the Terms of Reference of the inquiry. A summary of our comments identifying the critical and important issues have been based on the five main points in the terms of reference. Three critical issues have been identified.

Part 2 of this submission includes commentary relating to the communication and education of the end consumer pertaining to plumbing product market regulation.

PART ONE

Summary of submission comments

Critical issues

- Strong point of sale legislation needs to be adopted to significantly strengthen the WaterMark Scheme and stop non certified plumbing products being supplied to the market.
- WaterMark product certification needs to be the minimum prerequisite requirement for WELS approval.
- There must be a much greater focus on communication of the regulatory framework to stakeholders.

Important issues

- Caroma Dorf supports the current process to develop Australian Technical Standard (ATS) to allow for new plumbing product technologies that are not currently covered by an Australian Standard. This is important as it allows new innovative water saving technology to be brought to the Australian market place.
- Caroma Dorf is concerned with inconsistencies in the regulatory control over the installation of non certified plumbing products in Australia highlighting, the need for a nationally controlled regulation.
- Experience has shown, since 1993, that by providing WES controls for maximum flushing volume requirements for toilets, that very significant quantities of water and waste water have been saved.
- WES for tapware, showerheads and urinals need to be adopted together with an increase in the WES requirements for toilets from a 3 Star to a 4 Star WELS rating.
- Caroma Dorf endorses the introduction of Federal legislation to drive the conversions of over 3 million single flush toilets to dual-flush suites, saving a potential 79GL of potable water nationally, per annum.
- Compliance to product quality standards will provide effective performance over the life of the product, avoiding operational problems that could result in poor performance and inefficient water usage.
- Reinstate the requirement for WaterMark compliance for basins, baths, shower bases, sinks and laundry troughs.

Caroma Dorf, as the major manufacturer / importer of bathroom products in Australia, is committed to developing products that are water efficient and supporting government initiatives and standards that conserve Australia's water resources and energy. With this commitment the company, through its nominating industry associations, has had long standing membership involvement with Australian Standard committees including WS – 001 *Water Fittings* and WS-3 *Sanitary Plumbing Fixtures* that are responsible for the development of Australian Standards for kitchen and bathroom products. Together with these product standard committees Caroma Dorf has representation on WS-031 *Technical Procedures for Plumbing and Drainage Products Authorization*, WS-014 *National Plumbing and Drainage Code* and WS – 032 *Water Efficient Products* (WELS). Also the company has committee representation in the US through the American Society of Mechanical Engineers *ASME Project Team 19.2 – Vitreous China Plumbing Fixtures* ASME.

It is with our comprehensive market and standards experience that we wish to make the following comments relating to the Inquiry's terms of reference.

1. Appropriateness and effectiveness of the current plumbing product quality regulatory arrangements

Current position

Effective national plumbing product quality standards and approval procedures are currently in place through the WaterMark certification scheme. The WaterMark (certification trademark) identifies products that can be used in authorised plumbing and drainage work. We have no issues with the current procedures for gaining product certification to the WaterMark requirements in accordance with the Plumbing Code of Australia.

Compliance to Australian plumbing product standards is the basis for gaining Water Mark certification. Importantly, the scheme allows for new product technologies that are not covered by an Australian Standard to be allowed for with the development of an Australian Technical Standard (ATS) by the WS-031 committee. The ATS is then ratified by the National Plumbing Regulators Forum. We are supportive of this process as it has allowed our company to introduce new water saving technology that otherwise would have been difficult to obtain certification as no Australian Standard was in place. As the industry moves to adopt more innovative approaches to water and energy conservation this current ATS process must be maintained. This approach mirrors a similar process used in the US for new product accreditation known as IAPMO Guide Criteria (IGC) that our company has also used for approval.

While we are supportive of the current product certification scheme we are concerned that there are inconsistencies in the control over the installation of

non certified plumbing products in Australia. Of note, it is illegal to install a non WaterMark certified plumbing product but it is not illegal to sell a non certified product in Australia. We find this an unsatisfactory situation that needs to be resolved. If a product is not compliant then it should be fundamental that the product should not be allowed to be offered for sale. This is the major issue with the current WaterMark scheme that needs to be urgently addressed to insure that plumbing products provided to the market are fit for purpose – water / energy efficient and have no adverse effect on public health and safety.

WaterMark certification for basins, baths, shower bases, sinks and laundry

Not all sanitary fixtures are required to comply with relevant Australian Standards and be WaterMark compliant. Basins, baths, shower bases, sinks and laundry trough fixtures have been excluded from the WaterMark scheme. Australian Standards have been developed and published for these fixtures. We believe that there is a good case to reinstate the WaterMark certification requirement for these fixtures. It is not consistent that the waste outlet installed into the fixture is required to be WaterMark but not the fixture. With the current move away from requiring bathroom floor wastes there is an increasing reliance on the fixture overflow to avoid any fixture overflow situations that cannot be guaranteed without fixture performance requirements. Without installation fixture performance requirements, product failure can lead to rectification work and potential structural damage can occur. This is particularly the case for built-in bath and shower base installations. Standard load safety tests and safety usage tests are another important requirement.

2. Scale of environmental benefits from controlling plumbing product quality

In examining the benefits from controlling plumbing products it is important to look at the opportunity to legislate for the replacement of inefficient installed plumbing products and the influence of water efficient standards (WES) on urban water consumption – with particular reference to toilets.

Replacement of installed inefficient plumbing products

In June 2006, a study was prepared by the Institute for Sustainable Futures, University of Technology, Sydney, titled 'The Water Conservation Potential of Australia- Wide Single Flush Toilet Retrofit *A Potable Water Demand Model for Toilets in Australia*'.

Table ES1 from the Institute for Sustainable Futures study summarises the impact of a retrofit program to replace all single flush toilets in Australia with dual flush toilets in 2006-07. As shown, there are more than 3.1 million single flush toilets that could potentially be replaced. Potential water savings amount to 79 GL per year in 2006-07 and the total avoided cost of such a program is estimated at \$92 million in the same year. As the estimated 3 million remaining 11-litre toilet stock is around a minimum of 19 years' old, then we expect no market issues with the introduction of effective legislated change over a period of five years. Caroma Dorf recommend that to achieve this, a national retrofit consumer program is required.

Table ES1: Summary of the impact of a single flush retrofit in 2006-07.

Location	Number of single flush toilets (2006-07)	Water conservation potential (ML/year)	Total avoided cost (\$m) – 2006-07
Adelaide	137,867	3,125	3.7
Brisbane	219,798	5,432	5.2
Canberra	56,380	1,396	2.8
Darwin	11,475	319	0.4
Goulburn	3,617	88	0.09
Melbourne	442,856	11,126	7.2
Perth	205,965	4,623	5.3
Sydney	744,334	19,310	15.4
Toowoomba	18,237	422	0.25
Rest of Australia	1,269,394	32,935	51.7
Australia	3,109,923	78,776	92

This compelling information highlights the potential water-saving impact of a Federally driven, Australia wide dual-flush toilet retrofit program. The immediacy of the water saving impact, and the fact that there are no behavioural changes required in achieving this, improvement in our 'demand management' water position should be driven by legislation, with a five year complete conversion target.

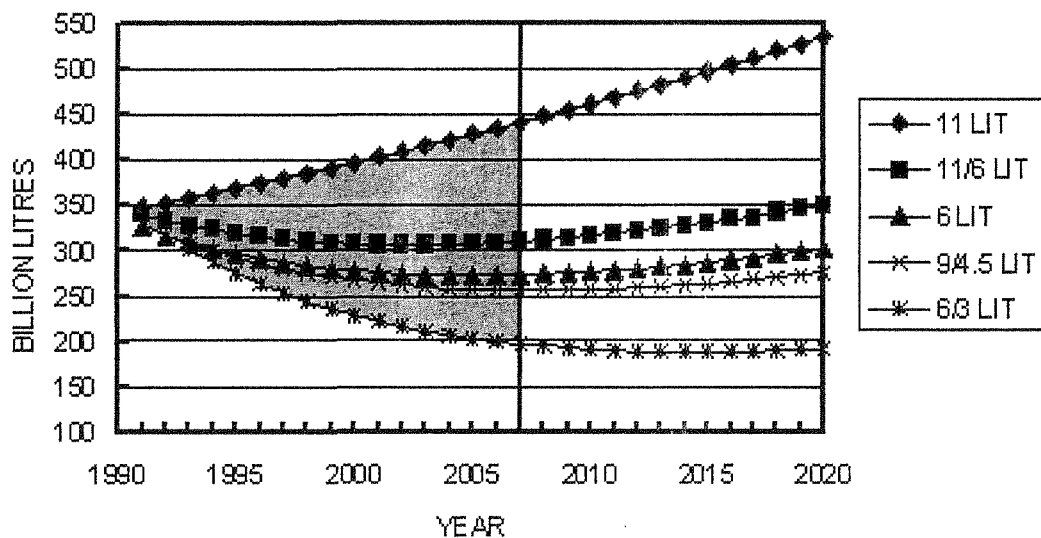
The benefits of an effective dual-flush conversion program are multi-faceted and include:

- reduction of demand on mains water supplies for toilet flushing purposes,
- a reduction of waste volume flowing through sewerage plants and associated infrastructure,
- decisions on major water and sewerage infrastructure upgrades and associated capital expenditure can be postponed as a direct result of reduced demand.

Water efficient plumbing product standards

Environmental benefits provided to the community through the controlling of plumbing product quality is best demonstrated by referring to the impact of mandating dual-flush 6/3litre toilets in Australia in 1993. In support of the mandate, plumbing quality standards AS/1172.1 pans & AS/1172.2 cisterns, were developed as water efficient standards (WES) specifying maximum flush volumes. AS/NZ3500 National Plumbing and Drainage Code includes maximum flush volumes for toilets - 6/3L.

In 1991 a Unisearch study conducted by Dr. P.J. Cooke from the School of Mathematics, University of New South Wales, showed the projected water usage of different flush volumes. As shown in the chart below, for Australia, by mandating 6/3L toilets in 1993 the amount of water being used in the year 2020 for toilet flushing was anticipated to be less than the amount being used in 1991. This result was achieved even with a projected population increase to 26,707,000.



Projected water usage by toilet cisterns in Australia – Cooke 1991

The Cooke study of the projected water usage associated with reduced toilet flush volumes is significant compared to the scenario of maintaining the original 11-litre single flush. The projection in the chart for 2007 shows that a saving for the year of 240 billion litres would be achieved. This highlights the environmental benefits that can be fully realised if the total market is required by regulation and standards to supply water efficient products. Clearly, WES that have controlled flushing volumes in Australia since 1993 are in the national interest.

Brisbane Water have compared the projected data against actual usage and found that the projected water savings provided by the mandating of 6/3L flush volumes correlated with actual usage.

Due to the current water crisis in Australia and based on the on-going water savings achieved by the WES for 6/3L toilets, other plumbing products now need to be adopted. These products include tapware, showerheads and urinals. The WES requirement for toilets needs to increase from a 3 Star WELS rating (6/3L) to a 4 Star WELS rating. Already, the Western Australian Government has legislated for the introduction by the 1st September 2007 of their 5 Star Plus Water and Energy Codes applying to all new buildings classified as Class 1 and 10 buildings. The Water Use in Houses Code specifies minimum WELS Star rating requirements for tapware – 4 Star minimum, showerheads – 3 Star minimum and toilets – 4 Star minimum. It has been our experience with the introduction of 3A (3 Star) rated showers and 4A (4 Star) rated toilets into the Australian market that there was no market cost premium associated with these water efficient technologies. Further, there is a capability by industry to achieve the WA Code requirements. WELS 4Star rated 4.5/3L toilets are rapidly becoming the industry norm with toilets from 21 other companies currently WELS registered with a 4 Star rating (www.waterrating.gov.au).

Other WaterMark issues

Apart from important public health and safety issues, the requirement for plumbing products to meet current WaterMark requirements will ensure that the products will operate effectively and be water efficient. Product compliance will also provide effective performance over the life of the product avoiding operational problems that could result in poor and ineffective operation that will waste water.

3. Trade implications of controlling plumbing product quality

It is the responsibility of the manufacturer to ensure that their plumbing products are certified and labelled to WaterMark requirements. This system has been operating satisfactorily in the industry for many years.

While we are supportive of the WaterMark product certification scheme, there has been a general inconsistency with the installation of non certified plumbing products. It is the responsibility of the installing plumber to ensure that the product being installed is WaterMark certified. We believe that this level of control is insufficient and can allow for non approved products to be installed as there is a limited level of regulatory inspection in place.

In the market place we are aware that there is an increasing demand for DIY plumbing products. We are also aware that not all plumbing product are installed by plumbers as required. There is an issue in the communication to the consumer, who purchases a regulated plumbing product from a retailer, as to the knowledge of the certification process. It would be reasonable for the consumer to assume if a plumbing product can be purchased then it would be certified. Further, market feedback has identified that there is general confusion within the plumbing industry on the implementation of current legislation of plumbing products.

New legislation is required that will guarantee that product supplied to the installing plumber is compliant, thus removing the plumber's responsibility to ensure product compliance.

4. Potential improvements to the plumbing quality regulatory system

Proposed improvements

- Strong point of sale legislation needs to be adopted. This legislation would significantly strengthen the WaterMark Scheme and overcome the reliance of the installing plumber to ensure that products are certified and stop non certified plumbing products being supplied to the market.
- WaterMark product certification needs be the minimum prerequisite requirement for WELS approval.
- Greater regulatory harmonisation of the standards requirements for WaterMark and WELS certified plumbing products.
- Develop regulatory control systems that are nationally consistent.

- Reinststate the requirement for WaterMark compliance for basins, baths, shower bases, sinks and laundry troughs. This will insure that the fixture is fit for purpose and compatible for use with installations complying with AS/NZS3500.
- *End consumer* education regarding the following key 'plumbing product' areas:
 - How do I identify an 'installation' approved product?
 - Can I install a plumbing product, or does it need to be done by a trade qualified plumber?
 - How do I find out how efficient my plumbing fitting & fixtures are?

5. Appropriate level of government to administer plumbing product quality regulation

Comments on the levels of State and Federal government controls over plumbing products are outlined below.

Control - AS/NZS3500 'National Plumbing and Drainage Code'

Requirements for installations to comply with AS/NZS3500 'National Plumbing and Drainage Code' should remain under the control of each State. However, plumbing product compliance needs to be controlled by the Federal Government, additionally there needs to be a national body responsible for the communication and education of this level of regulation to the end consumer.

Control – compliance of plumbing products

Point of sale legislation as proposed for all plumbing products as specified in AS 5200.000 'Technical specification for plumbing and drainage products needs' to be controlled by the Commonwealth Government. This could be operated utilising existing Department of Environment and Heritage structures that are currently monitoring WELS labelled plumbing products in retail stores.

Alternatively, if the WaterMark becomes the minimum prerequisite requirement for WELS approval as proposed, then WaterMark compliance would automatically be validated by the WELS label on relevant plumbing products and again can be controlled by department of Environment and Heritage inspectors.

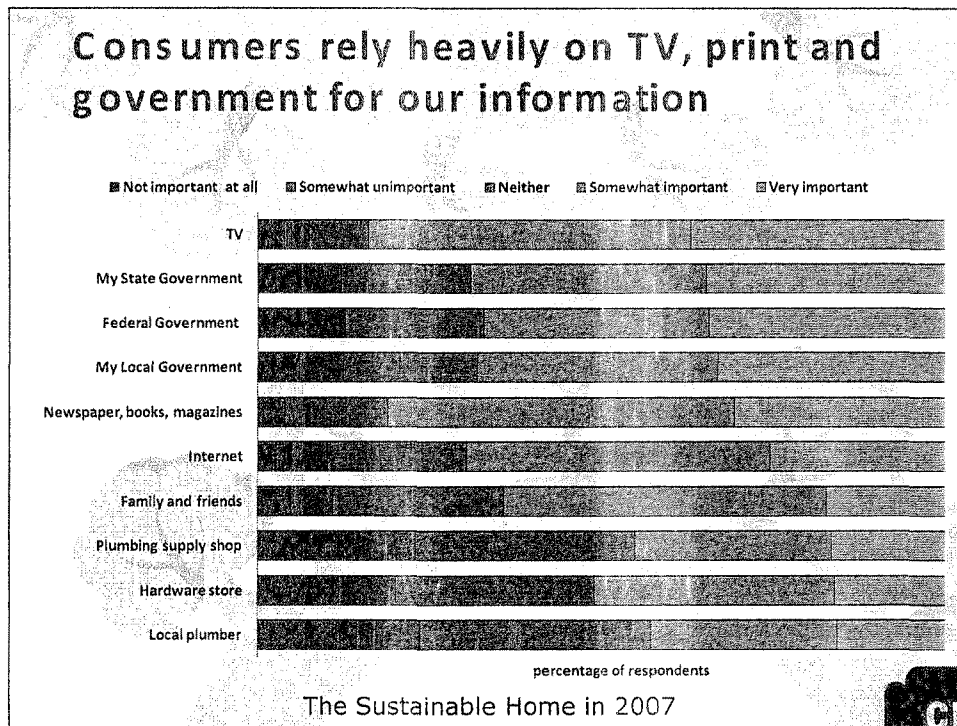
With this proposed national legislation in place, guaranteeing that plumbing products supplied to the market are WaterMark compliant and therefore taking the compliance responsibility away from the installing plumber, the WaterMark scheme will be significantly strengthened and our current concerns with the scheme will be rectified.

PART TWO – COMMUNICATION & EDUCATION

Sustainability Market Overview

During April 2007, Connection Research conducted an online study focusing on 'The Sustainable Home in 2007'. The data was released during June 2007, 1718 participants took place and is representative of national coverage. Water and energy topics were covered.

What was highlighted as an outcome of this research is that the community as a whole is engaged on environmental concerns and most people have a good understanding of water conservation in particular. However this broad community knowledge has been generated by way of media and government. A finding of major concern to Caroma Dorf is that the plumbing industry (including trades people), does not rate well as a source of information on making informed 'sustainable' decisions.



Given the integral nature of 'water saving initiatives' and the plumbing industry, this breakdown in communication and resulting market education is a major weakness that needs to be overcome.

It is Caroma Dorf's view that the industry needs to have a proactive approach to market education, and the process by which this is done. Ultimately, it is decisions made by end consumers that will direct the future of the 'water

management' market and ultimately the plumbing industry. Currently we leave this education process to media outlets and government, rather than driving the key messages as a structured and decisive industry body with long term objectives.

Issues:

The lack of a national 'water management' body within Australia, results in confusion across communities regarding:

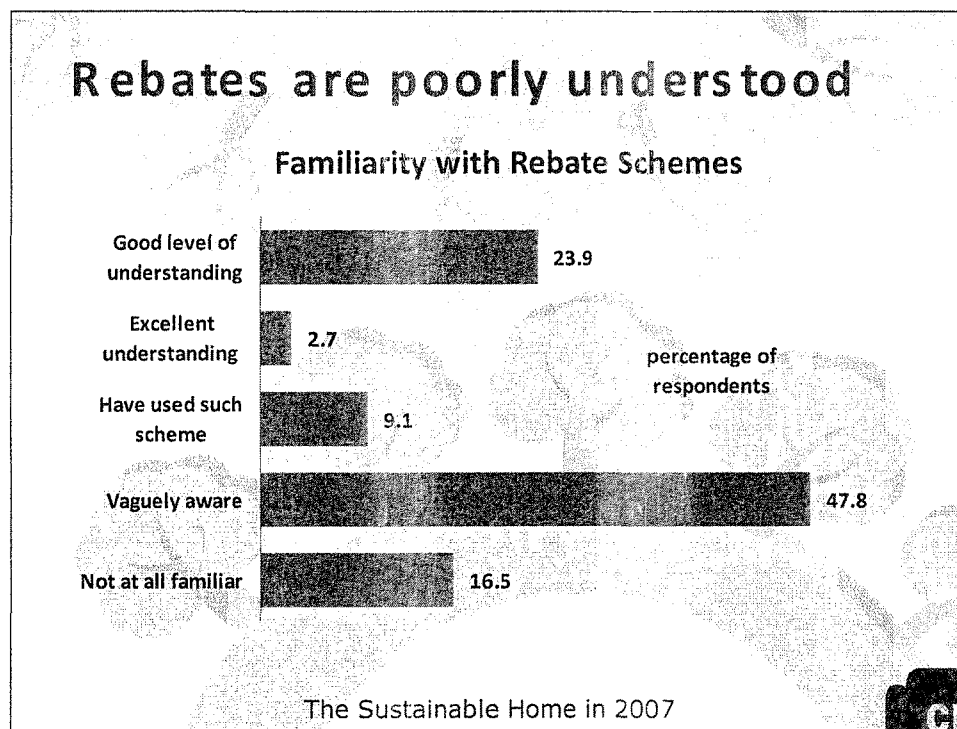
Water restrictions

- Definitions of water restrictions, restrictions within levels vary greatly across communities:
 - What can I/can't I do?
- Where is it targeted?
 - residents or businesses
 - need to educate communities where greatest water saving impacts can be made
- What support will water users get to help comply with the restrictions
- National direction on what can & cannot be restricted, for the longer term good of existing infrastructure
- Should we review the terminology used? Currently 'restrictions' has negative connotations within the community, however what is being achieved by these 'restrictions' being in place is having a very positive impact on dam levels

Decentralised approach to demand management practices, resulting in highly subjective approaches to community targeted incentive schemes.

- Products selected for rebating vary,
- Rebate levels vary,
- Means of advertising/educating the community vary,
- Who are the key targets for implementing effective demand management practices (homes v businesses)

The Connection Research into 'The Sustainable Home 2007' found that rebate systems are poorly understood and many households would prefer a 'loan' based system.



A lack of common objectives around water saving practices results in highly segmented KPI's of councils, government & water boards. The outcome of this nationally fractured view being localised rebate structures that are overall confusing for the community and therefore ineffective.

Additionally, national organisations are unable to devise 'national' educational programs and promotions to help promote rebates linked into plumbing products and by doing so providing water saving solutions.

An example of this being:

Caroma Dorf are currently trying to promote the conversion of single-flush to dual-flush retrofitting to the end consumer through Bunnings Stores nationally. However, given that the rebate levels vary so greatly by State, local councils & products, it is posing a logistical issue with encouraging residents to claim this rebate, as each of the 155 stores will have a differing message to promote.

Suggestions for taking a leadership approach to communication and market education regarding the 'water management' message and ultimately the plumbing industry can be outlined as follows:

Devise a centralised **national** body where water users can find out more. The services offered could include:

- Education of new & existing trades-people in the changing face of the water management industry and resulting regulation and product changes to suit
- National education promotions, outlining industry regulation changes and what that means to the end consumer
- Developing a centralized resource as the national 'water management' go to point. This could be based around customer service centres and web-based tools. Areas that could be covered include:

An individual or business could access the following:

- Restrictions in my post code
- What does this mean to my daily water usage
- What rebates am I eligible for (makes claiming rebates easier – includes blank forms, form completion wizards, electronic submissions, etc)
- What are my local dam levels
- What programs can communities get involved in to assist usage reduction
- National schools 'grant' program information
 - What local schools are eligible & how can community get involved
- How much do I pay for my water
- Access to available retrofit programs in my community
- Where businesses can get information on water audits
- Business based incentive programs
- Hints & tips on water usage
- 'Blog' point to monitor communities level of engagement and issues arising
- Monitor infrastructure upgrades in my community – timeline tracking & anticipated water saving impact
- Ultimately, the 'go to point' for all things water (& energy) saving