

**INITIAL STATEMENT OF REASONS  
FOR  
PROPOSED BUILDING STANDARDS  
OF THE  
DEPARTMENT OF WATER RESOURCES  
REGARDING THE 2010 CALIFORNIA PLUMBING CODE (CPC)  
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 5**

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The Administrative Procedure Act requires an Initial Statement of Reasons to be available to the public upon request when rulemaking action is being undertaken. The following are the reasons for proposing this particular rulemaking action:

**STATEMENT OF SPECIFIC PURPOSE AND RATIONALE:**

DWR proposes to adopt with amendments the 2009 edition of the Uniform Plumbing Code into the 2010 California Plumbing Code.

Water Code section 13557 requires the Department of Water Resources (DWR), in consultation with the State Department of Health Services, to adopt and submit to the California Building Standards Commission regulations to establish a state version of Chapter 16 A Part II (formerly known as Appendix J) of the Uniform Plumbing Code to provide design standards to safely plumb buildings with both potable and recycled water systems, thereby “increasing the safe use of recycled water”.

This California code adoption by a state agency – DWR – bestows these design standards with official state status and, thus, facilitates the safe installation of dual plumbed systems using both recycled and potable water supplies.

The amendments are necessary to comply with current California regulations; specifically:

- Title 22 Sections 60313 – 60616 dealing with recycled water dual plumbed systems,
- Title 17 Sections 7583 et seq. dealing with cross-connection control, and
- Sections 601.0 and 601.1 dealing with hot water exceptions and clarifying that a public agency is empowered to require recycled water for flushing water closets and urinals in accordance with California Water Code Section 13554.

**Specific Proposed Regulatory Actions:**

DWR proposes to adopt by reference the 2009 edition of the Uniform Plumbing Code with amendments into the 2010 California Plumbing Code. These proposed amendments are intended to provide clarity, specificity and direction to the code user and to implement and make specific existing state laws. These proposed amendments are a result of recommendations developed during the public participation period prior to submittal to the California Building Standards Commission (CBSC). The rationale for each amendment by chapter and section is listed below.

**CHAPTER 16 NONPOTABLE WATER REUSE SYSTEMS**

DWR proposes to adopt the 2009 UPC, Chapter 16A Part II.

**Section 1613A.0 – Recycled Water Systems - General**

DWR proposes to change the term “reclaimed water” to “recycled water” to comply with the California Water Code and the correct “recycled water” term is used and changed throughout this document.

(A) DWR proposes to add the phrase “and other allowed uses” to account for any uses that may added in the future.

(A) DWR proposes to add the phrase:

“The recycled water system shall not have any connections to the potable water system, except via an air gap approved by the Authority Having Jurisdiction or via a temporary connection to the potable system for initial testing of the recycled water system piping”,

to clarify that potable water Not be connected to the recycled water system as makeup water. Unlike the 2009 UPC,

the California DPH regulations prohibits potable water to be connected as a back up supply to dual plumbed systems. Title 22 Section 60315 states: *“The public water supply shall not be used as a backup or supplemental source of water for a dual-plumbed recycled water system unless the connection between the two systems is protected by an air gap separation which complies with the requirements of sections 7602 (a) and 7603 (a) of title 17, California Code of Regulations, and the approval of the public water system has been obtained.”*

The authorization of acceptable uses of recycled water in California is in the domain of the Department of Public Health (DPH) (formerly called the Department of Health Services or DHS) per the California Water Code Section 13521: *“The State Department of Health Services shall establish uniform statewide criteria for each varying type of use of recycled water where the use involves the protection of public health.”* Local building officials do not authorize acceptable uses of recycled water.

To fulfill the responsibility cited above, the DPH has established extensive and detailed regulatory criteria for Dual Plumbed Recycled Water Systems in Title 22, Article 5, Sections 60313 through 60316. The Authority Having Jurisdiction (AHJ) is not empowered to over rule or replace this authority.

(A) DWR proposes to delete the phrase indicating these uses of water:

“irrigation, industrial processes, water features and other uses approved by the Authority Having Jurisdiction”,

because the Uniform Plumbing Code (UPC) and the California Plumbing Code (CPC) have limited scope which is governed by the definition of the term “plumbing systems”. This definition does not include “irrigation, industrial processes, or water features”. The details of this code were created specifically and exclusively for flushing water closets, urinals, and drain primers and should not be expanded to other applications, especially ones beyond the jurisdiction of the UPC and CPC.

(A) DWR proposes to delete the phrase:

“Potable water supplied as makeup water in these systems shall be protected against back-pressure and back-siphonage in accordance with Sections 602.0 and 603.0”

indicating the use of potable water to augment the recycled water supply. This is not allowed in California for dual plumbed systems (Title 22 Section 60315), so the removal of this phrase is intended to avoid any misinterpretation.

(B) DWR proposes to add the phrase:

“See Section 1620A.0 for further details”

to direct the reader to the appropriate section and avoid repetition of information.

(C) DWR proposes to change “the” to “an” to allow for additional testing as necessary.

(C) DWR proposes to change “and” to “or” to allow for a delegated authority as determined by the local agencies.

### **Section 1614A.0 - Definitions**

DWR proposes to add the text which clarifies that DPH authorizes statewide uniform criteria for disinfected tertiary recycled water:

“California Department of Public Health statewide uniform criteria for disinfected tertiary recycled water”,

DWR proposes to delete the text which clarifies that there are no federal requirements for recycled water:

“or as result of treatment, meets federal requirements for its intended uses”,

DWR proposes to delete the text which clarifies that the Authority Having Jurisdiction (AHJ) does not approve the quality of recycled water:

“The level of treatment and quality of the reclaimed water shall be approved by the Authority Having Jurisdiction”,

and

DWR proposes to add the text to comply with the California Water Code:

“Recycled water is also known as reclaimed water”.

California Water Code Section 13521 empowers the California Department of Public Health (DPH) to “establish uniform statewide recycling criteria for each varying type of use of recycled water where the use involves the protection of public health.” In Title 22, Chapter 3, Water Recycling Criteria, the DPH has already established that

“disinfected tertiary recycled water” is the class of water required for flushing toilets and urinals. The AHJ does not have authority to overrule the DPH in this area.

#### **Section 1615A.0 - Permit**

DWR proposes to change “reclaimed water” to “recycled water” to comply with the California Water Code.

DWR proposes to add the text:

“Section 13553 of the Water Code specifies structures where indoor use of recycled water is allowed. These structures include commercial, retail and office buildings, theaters, auditoriums, condominium projects, schools, hotels, apartments, barracks, dormitories, jails, prisons, reformatories, and other structures as determined by the State Department of Public Health”,

to inform the reader of the CPC of the types of structures where indoor use of recycled water is allowed.

#### **Section 1616A.0 – Drawings and Specifications**

DWR proposes to delete and add text to duplicate the drawing and specification requirements for potable water plumbing systems. The previous UPC’s Appendix J and the 2009 UPC contains cumbersome requirements for recycled water dual plumbed systems which inhibit their installation as compared to the drawings and specifications requirements for other types of plumbing systems. This is one of the obstacles and impediments identified by the California Recycled Water Task Force. The changes put recycled water on an equal footing with other types of plumbing design.

DWR proposes to delete all UPC language and consolidate Section 1616A.0 by removing paragraph numbering.

DWR proposes to add text which has the same drawings and specifications requirements as other types of plumbing systems:

‘Drawings and specifications for recycled water systems shall be in accordance with the requirements identified in Chapter 1, General Code Provisions, of the California Plumbing Code’.

#### **Section 1617A.0 Pipe Material / Identification**

DWR proposes to change “reclaimed water” to “recycled water” to comply with the California Water Code.

DWR proposes to add “pipe” which clarifies the text.

#### **Section 1617A.1 – Pipe Materials**

DWR proposes to change “reclaimed water” to “recycled water” to comply with the California Water Code.

#### **Section 1617A.2 – Color and Information**

DWR proposes to change “reclaimed water” to “recycled water” to comply with the California Water Code.

DWR proposes to delete the 2009 UPC text which only requires pipe labeling every 20 feet. The pipe marking system agreed to in the California Recycled Water Task Force requires marking the entire length of the recycled water plumbing as a safeguard against cross connections.

DWR proposes to delete the 2009 UPC text which requires marking to increase in size as pipe diameter increases because this hard-to-find purple Mylar adhesive tape only comes in one size: background (1-3/4 inch wide tape) with lettering one-half inch high. This tape is routinely used to mark metallic pipe by wrapping it in a spiral and has been in successful use in California dual-plumbed systems for almost 20 years without problems.

#### **Section 1618A.0 – Installation**

**(A)** DWR proposes to add text which does not allow hose bibbs to be used. Note that the 2009 UPC prohibits all hose bibbs. Access to the recycled water systems will be through quick couplers as allowed by DPH regulations. This change is made to be consistent with California recycled water regulations and practices.

“(A) The portions of the recycled water piping system shall not include any hose bibbs. Only quick couplers that differ from those used on the potable water system shall be used on the recycled water piping system.”

**(B)** DWR proposes to change “deactivation or drainage” to “testing” to comply with code language from the California Recycled Water Task Force.

**(C)** DWR proposes to delete and add text to utilize the same installation requirements for potable water plumbing systems. The previous UPC’s Appendix J and the 2009 UPC contains cumbersome requirements for recycled water dual plumbed systems which inhibit their installation as compared to the installation requirements for other types of plumbing systems. This was one of the items identified as obstacles and impediments in the California Recycled Water Task Force. The changes put recycled water on an equal footing with other types of plumbing design.

DWR proposes to delete all UPC language.

DWR proposes to add text which has the same installation requirements as other types of plumbing systems:  
“Recycled water pipes laid in the same trench or crossing building sewer or drainage piping shall be installed in compliance with Sections 609.0 and 720.0 of this code”.

### **Section 1619A.0 – Signs**

**(A)** DWR proposes to change “reclaimed water” to “recycled water” to comply with the California Water Code.

**(B)** DWR proposes to change “reclaimed water” to “recycled water” to comply with the California Water Code.

**(C)** DWR proposes to change “reclaimed water” to “recycled water” to comply with the California Water Code.

DWR proposes to delete and add text to clarify the location of the toilet tank signage. The purpose of the sign is to warn against drinking the water within the toilet tank, in case that water is used as an emergency supply. The UPC language could be interpreted to require a label on the outside of a tank-type toilet (water closet), which is unnecessary. The text is replaced by the Inspection and Testing language developed by the California Recycled Water Task Force.

DWR proposes to delete:  
“the tank shall be labeled”.

DWR proposes to add:  
“a permanent sign (such as plastic or stainless steel) shall be installed inside the tank to warn that the water within the tank is not a suitable emergency water supply. The sign shall be labeled:”

**(D)** DWR proposes to change “reclaimed water” to “recycled water” to comply with the California Water Code.

**(E)** DWR proposes to add text to state the purpose, and to provide a description of, valve seals. Although mentioned in the code, the 2009 UPC does not provide this information about valve seals. This text, paragraph (E), corrects this oversight.

“(E) Valve Seals. The master recycled water shut-off valve and/or the recycled water meter curb cock and each valve within a wall shall be sealed after the recycled water system has been approved and placed into operation. These seals shall either be crimped lead wire or plastic break-away seal which, if broken after system approval, shall be deemed conclusive evidence that the recycled water system has been accessed. The seals shall be purple, numbered, and contain the words “Recycled Water”, and shall be supplied by the recycled water purveyor, or by other arrangements acceptable to the Authority Having Jurisdiction.”

### **Section 1620A.0 - Inspection and Testing**

The feasibility and necessity for testing and inspection was one of the primary topics addressed by the Recycled Water Task Force, an 18-month public process that involved over 40 members that represented various California regulatory authorities and recycled water stakeholders. The California Department of Public Health (DPH), which has authority over Title 17, Backflow Prevention and Cross Connection Control regulations, as well as Title 22, Recycled Water Regulations, co-chaired the subcommittee that crafted and approved of this language from the Task Force.

**(A)** DWR proposes to change “reclaimed water” to “recycled water” to comply with the California Water Code.

**(B)** DWR proposes to add text to clarify when Cross-Connection Tests and Annual Visual System Inspections are to be performed.

“The recycled water system shall be inspected and tested in accordance to the following: (a) an initial cross-connection test before the initial operation of the recycled water system; (b) an annual visual system inspection; (c) a cross-connection test as required pursuant to section 60316(a), Title 22, California Code of

Regulations; (d) a cross-connection test when there is material reason to believe that the potable water and/or recycled water system separation has been compromised; and (e) a cross-connection test following remediation of a discovered cross-connection. A material reason to believe that the system has been compromised may be based on, but is not limited to, evidence gathered: (a) during a visual inspection performed pursuant to section 1620A.0, or (b) as a result of an inspection performed following complaints of water quality or flow conditions consistent with a compromised system.”

DWR proposes to add the text “Cross-Connection Test” and “Annual Visual System Inspections” to provide the name of the procedures.

DWR proposes to delete redundant text describing the procedures of the Test and Inspection, included in the subsequent sections (see Section 1620A.0 (B) (2) the Cross-Connection Test):

“and test”, and

“on both the potable and reclaimed water systems. The potable and reclaimed water system shall be isolated from each other and independently inspected and tested to ensure there is no cross-connection”.

**(B) (1)** DWR proposes to add text to describe only the procedure of the Annual Visual System Inspection and clarify it is done annually:

“Annual”,

“A visual”, and

“annually”.

DWR proposes to delete text which describes other steps other than the Annual Visual System Inspection and which automatically implies that a Cross-Connection Test is done annually:

“Prior to commencing the cross-connection testing, a dual”.

DWR proposes to change “and” to “or” to allow for a delegated authority, other than the Authority Having Jurisdiction, as determined by the local agencies.

**(B) (1) (i)** DWR proposes to change “reclaimed” to “recycled” to comply with the California Water Code.

**(B) (1) (iv)** DWR proposes to add this section to trigger a Cross-Connection Test if warranted during the Annual Visual System Inspection:

“(iv) If the visual inspection indicates that the recycled water plumbing has been modified, a Cross-Connection Test is required”.

**(B) (2)** DWR proposes to add the phrase:

*“applicant shall perform the Cross-Connection Test as required pursuant to the first paragraph in section 1620A.0 (B).*

*The test shall be conducted’*

to specify when a cross-connection test is warranted.

DWR proposes to delete the phrase:

“following procedure shall be followed by the applicant”

DWR proposes to change “and” to “or” to indicate that there may be a delegated authority having jurisdiction.

DWR proposes to add the text:

“Alternate inspection and testing requirements may be allowed by the Authority Having Jurisdiction for residential, institutional or industrial buildings where shutting off the water is not practical. The recycled water purveyor, or other designated appointee may substitute for the Authority Having Jurisdiction in the above mentioned inspection and tests..”

This paragraph clarifies that alternative testing may be allowed by the Authority Having Jurisdiction and states that delegated authorities may be appointed.

**(B) (2) (i)** DWR proposes to change “reclaimed water” to “recycled water” to comply with the California Water Code.

DWR proposes to change “drained” to “depressurized”.

**(B) (2) (ii)** DWR proposes to add and delete text to clarify that the time allotted for depressurization is dependant on the size and complexity of the plumbing system, and is determined on a case by case basis.

DWR proposes to add:

“while the recycled water system is depressurized.”

DWR proposes to delete:

“for a minimum period of time specified by the Authority Having Jurisdiction while the reclaimed water system is empty.”  
“, but in no case shall that period be less than one (1) hour.”

**(B) (2) (ii)** DWR proposes to change “reclaimed water” to “recycled water” to comply with the California Water Code.

**(B) (2) (iii)** DWR proposes to change “reclaimed water” to “recycled water” to comply with the California Water Code.

**(B) (2) (v)** DWR proposes to change “drained” to “depressurized”.

**(B) (2) (vi)** DWR proposes to change “reclaimed water” to “recycled water” to comply with the California Water Code.

DWR proposes to add text to clarify that for the initial cross-connection test only, potable water is used to verify the integrity of the system because recycled water has not yet been delivered.

“For the initial test, a temporary connection to a potable water supply will be required to test the recycled water system plumbing. At the conclusion of the test, the temporary connection to the potable water supply shall be disconnected.”

**(B) (2) (vii)** DWR proposes to change “reclaimed water” to “recycled water” to comply with the California Water Code.

DWR proposes to add and delete text to clarify that the test is performed via depressurization and the time allotted is determined on a case by case basis.

DWR proposes to delete:

“for a minimum period of time specified by the Authority Having Jurisdiction”  
“, but in no case shall that period be less than one (1) hour.”

DWR proposes to change “empty” to “depressurized”.

**(B) (2) (viii)** DWR proposes to change “reclaimed water” to “recycled water” to comply with the California Water Code.

**(B) (3)** DWR proposes to delete redundant text which is already stated in section 1620A.0 (B) (2):  
“in the presence of the Authority Having Jurisdiction, “

**(B) (3) (i)** DWR proposes to change “reclaimed water” to “recycled water” to comply with the California Water Code.

**(C)** DWR proposes to delete redundant text which is delineated in the section 1620A.0 (B) (1) and 1620A.0 (B) (2):

“(C) An annual inspection of the reclaimed water system, following the procedures listed in subsection 1620.0 (B)(1), shall be required. Annual cross-connection testing, following the procedures listed in subsection 1620.0 (B)(2), shall be required by the Authority Having Jurisdiction, unless site conditions do not require it. In no event shall the test occur less often than once in four (4) years. “

#### **Section 1621A.0 – Sizing**

DWR proposes to change “reclaimed water” to “recycled water” to comply with the California Water Code.

### **Changes Required to Section 6.01.1**

#### **Of the Uniform Plumbing Code**

#### **Section 601.1 – Hot and Cold Water Required:**

DWR proposes to add text to clarify that a public agency is empowered to require recycled water for flushing water closets and urinals in accordance with California Water Code Section 13554.

Exception (2): DWR proposes to add:

“Where a public agency requires a building to use recycled water to flush water closets and urinals in accordance with California Water Code 13554.”

In California, the local plumbing official is not empowered to overrule a public agency’s determination that a building is required to be dual-plumbed so that recycled water may be used to flush toilets and urinals. In 2007, legislation was passed (AB1406 Huffman) that expands the type of structures where public agencies may require dual plumbing:

commercial, retail, and office buildings, theaters, auditoriums, condominium projects, schools, hotels, apartments, barracks, dormitories, jails, prisons, and reformatories, and other structures as determined by the State Department of Public Health.

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### **TECHNICAL, THEORETICAL, AND EMPIRICAL STUDY, REPORT, OR SIMILAR DOCUMENTS:**

(Government Code Section 11346.2(b)(2) requires an identification of each technical, theoretical, and empirical study, report, or similar document, if any, upon which the agency relies in proposing the regulation(s).)

#### *Water Recycling 2030: Recommendations of California’s Recycled Water Task Force:*

The 2002 California Recycled Water Task Force mandated by Assembly Bill 331 (2001, Goldberg, Chapter 590) a cooperative effort of the California Department of Water Resources (DWR), the Department of Public Health, and the State Water Resources Control Board (SWRCB) advised the Legislature on opportunities for and constraints to recycled water use in the Task Force report.

The 40-member Task Force, (representing federal, state, and local agencies, private entities, environmental organizations, universities, concerned individuals and public-interest groups), established committees (workgroups) to focus on specific topics of concern and make recommendations which formed the basis of Task Force decision-making.

Among the key findings of the Task Force was the lack of an adopted California Plumbing Code addressing the dual-plumbing of buildings to flush toilets and urinals. The Task Force developed language for adoption into the California Plumbing Code as a replacement to 2002 UPC Appendix J. The current version, 2009 Uniform Plumbing Code (UPC), contains modified language from the former Appendix J and has been relocated to Chapter 16 Part II of the UPC. As was the case with Appendix J, the UPC language still has conflicts with California regulation.

Accordingly the DWR and California recycled water stakeholders have updated the Task Force code language that address these deficiencies and is consistent with the findings of the Task Force and California regulations pertaining to recycled water and dual plumbing.

### **CONSIDERATION OF REASONABLE ALTERNATIVES**

(Government Code Section 11346.2(b)(3)(A) requires a description of reasonable alternatives to the regulation and the agency’s reason for rejecting those alternatives. In the case of a regulation that would mandate the use of specific technologies or equipment or prescribe specific action or procedures, the imposition of performance standards shall be considered as an alternative.)

DWR is required by statute to adopt model codes by reference, Water Code section 13557.

There is a need for adopting a state version of Chapter 16 Part II of the Uniform Plumbing Code (UPC) to provide design standards to safely plumb buildings with both potable and recycled water systems. Currently, no such standards are adopted in California.

The code could remain un-adopted and not have official status in California. In such instance, entities seeking to dual-plumb their facilities for indoor use of recycled water will have no clear guidance to follow. This will hinder the installation of dual plumbed systems and adversely affect the State’s effort in furthering the use of recycled water.

The only existing alternative to the proposed code is the UPC unmodified version. The UPC alternative does not however conform with California’s Health and Safety Regulations (in particular Titles 17 and 22 of the California Code of regulations).

**REASONABLE ALTERNATIVES THE AGENCY HAS IDENTIFIED THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS**

(Government Code Section 11346.2(b)(3)(B) requires a description of any reasonable alternatives that have been identified or that have otherwise been identified and brought to the attention of the agency that would lessen any adverse impact on small business. Include facts, evidence, documents, testimony, or other evidence upon which the agency relies to support an initial determination that the action will not have a significant adverse impact on business.)

DWR has determined that this regulatory action would have no significant adverse economic impact on California business enterprises and individuals, including the ability of California businesses to compete with businesses in other states. This code adoption provides the minimum design standards for dual plumbing installation. The choice of installation, unless mandated by local ordinance, is the decision of the building owner.

**FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE OF NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON BUSINESS.**

(Government Code Section 11346.2(b)(4) requires the facts, evidence, documents, testimony, or other evidence on which the agency relies to support an initial determination that the action will not have a significant adverse economic impact on business.)

During public comment period, no one expressed concern on economic impacts of the new standards. Use of dual plumbing may reduce the cost of water to businesses. The standards proposed for adoption will give guidance to entities seeking to install dual plumbing systems. The proposed code revises existing Uniform Plumbing Code to make it conform to California regulations as well as remove cumbersome requirements for recycled water dual plumbed systems which inhibit their installation. This was one of the items identified as obstacles and impediments in the California Recycled Water Task Force. Removing cumbersome requirements would reduce the cost of implementing dual plumbing systems.

**DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS**

(Government Code Section 11346.2(b)(5) requires a department, board, or commission within the Environmental Protection Agency, the Resources Agency, or the Office of the State Fire Marshal to describe its efforts, in connection with a proposed rulemaking action, to avoid unnecessary duplication or conflicts with federal regulations contained in the Code of Federal Regulations addressing the same issues. These agencies may adopt regulations different from these federal regulations upon a finding of one or more of the following justifications: (A) The differing state regulations are authorized by law and/or (B) The cost of differing state regulations is justified by the benefit to human health, public safety, public welfare, or the environment. It is not the intent of this paragraph to require the agency to artificially construct alternatives or to justify why it has not identified alternatives.)

These regulations neither duplicate nor conflict with federal regulations.