Rule No. 16 Page 1

Service Connections, Meters, and Customer's Facilities

A. General

1. Utility's Responsibility

a. (1) In urban areas with dedicated front streets, rear service roads, or public utility easements the utility will furnish and install the service pipe, curb stop, meter and meter box at its own expense for the purpose of connecting its distribution system to the customer's piping, except for temporary services, and as otherwise provided in Rule No. 15, Main Extensions. The service connection, curb stop, meter and meter box will be installed at a convenient place between the property line and the curb, or inside the customer's property line where necessary.

(2) In areas which do not have dedicated front streets, rear service roads, or public utility easements the utility will furnish and install the service pipe, curb stop, meter and meter box as above-provided but at a convenient point on or near the customer's property except for service beyond the service area.

b. The service connection will determine the point of delivery of water service to the customer.

2. Customer's Responsibility

a. Condition Precedent to Receiving Service

The customer as a condition precedent to receiving service shall:

(1) Furnish and lay the necessary piping to make the connection from the service connection to the place of consumption and shall keep such piping in good repair in accordance with such reasonable requirements of the utility as may be incorporated in its rules herein.

(2) Provide a main valve on the piping between the service connection and the point of customer use.

(3) Where service is rendered at or near the service area boundary for use beyond the service area, install, operate and maintain the facilities necessary to provide service.

(Continued)

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A. General (continued) (N)

2. Customer's Responsibility (continued) (N)

b. The customer's piping shall extend to that point on the curb line or property line of easiest access to the utility from its existing distribution system or requiring the least extension of the existing distribution main. The utility shall be consulted before installation thereof and its approval of location secured.

3. Ownership and Absence of Rental Obligation Where Facilities are On Premises of Customer

a. The service pipe, curb stop, meter, and meter box furnished by the utility at its own expense and located wholly or partially upon a customer's premises are the property of the utility.

b. No rent or other charge will be paid by the utility where the utility-owned service facilities are located on a customer's premises.

4. Access to Premises of Customer

a. The utility shall at all reasonable hours have access to meters, service connections and other property owned by it which may be located on customer's premises for purposes of installation, maintenance, operation or removal of the property at the time service is to be terminated. The customer's system should be open for inspection at the reasonable times to authorized representatives of the utility.

b. Any inspection work or recommendations made by the utility or its agents in connection with plumbing or appliances or any use of water on the customer's premises, either as a result of a complaint or otherwise, will be made without charge.

5. Responsibility for Loss or Damage

a. The utility will not be responsible for any loss or damage caused by any negligence or wrongful act of a customer or a customer's authorized representatives in installing, maintaining, operating or using any or all appliances, facilities or equipment for which service is supplied.

b. The customer will be held responsible for damage to utility's meters and other property resulting from the use of operation of appliances and facilities on customer's premises, including but not limited to damage caused by steam, hot water, or chemicals. (L) (L) (L)

(Continued)

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B. Services (L)

1. Charge for Service Connections

a. The utility shall make no charge to a customer for making a service connection except in case of connections for private fire protection, service, connections for temporary service, changes made at the request and for the convenience of the customer, where additional connections are requested because of divisions of land ownership when the land before the division was receiving service, and as otherwise provided in the utility's main extension rules.

2. Size of Service Pipe

a. The minimum size of service pipe installed by the utility will not be less than $^{3}/_{4}$-inch nominal size.
b. The utility may require the customer to provide such data as may be necessary for the utility properly to size a service larger than $^{3}/_{4}$-inch nominal size consistent with pressure requirements.

3. Installation

a. Only duly authorized employees or agents of the utility will be permitted to install and/or connect a service pipe from the utility's main to the customer's service connection.

C. Cross-Connections

1. Protective Regulation

a. No physical connection between the potable water supply system of the public utility and that of any other water supply or source of actual or potential contamination will be permitted except in compliance with the regulations of the State Department of Public Health contained in Title 17, Sections 7583-7605 of the California Code of Regulations under "Regulations Relating to Cross-Connections". (L)

(Continued)

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Service Connections, Meters, and Customer's Facilities

C. Cross-Connections (continued) (L) (N)

2. Backflow Prevention Assemblies Required

Pursuant to general rate case decisions, and in accordance with the Commission's general supervisory policies, the utility will evaluate the degree of potential health hazard to the public water supply which may becreated as a result of conditions existing on a user's premises. As a minimum, the evaluation will consider: the existence of cross-connections, the nature of materials handled on the property, the probability of a backflow occurring, the degree of piping system complexity and the potential for piping system modification.

Notwithstanding the above, because certain activities present inherent risks to the water supply, the utility may forego a complete evaluation and may require backflow protection based on the type of facility or nature of water use, if certain conditions are present. Customers that are required to install a backflow prevention assembly under these circumstances will be provided with an internal cross connection inspection upon request. The conditions under which CWSC will require the installation of approved backflow prevention assembly(ies) of required type include, but are not limited to, those listed below.

a. Where a fresh water supply which has not been approved by the State Department of Public Health is already available from a well, spring, reservoir or other source. (If the customer agrees to destroy this other supply and agrees to remove all pumps and piping necessary for the utilization of an auxiliary supply, the installation of backflow prevention assembly(ies) will not be required.)

b. Where salt water, or water otherwise contaminated, is available for industrial or fire protection purposes at the same premises.

c. Where the premises are or may be engaged in industrial processes using or producing process waters or liquid industrial wastes, or where the premises are or may be engaged in handling sewage or any other dangerous substances.

d. Where fresh water hydrants or other outlets are or may be installed on piers or docks.

e. Where the circumstances are such that there is special danger of backflow of sewage or other contaminated liquids through plumbing fixtures or water-using or treating equipment, or storage tanks and reservoirs. (L)

(Continued)

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Service Connections, Meters, and Customer's Facilities

C. Cross-Connections (continued) (L)(N)

2. Backflow Prevention Assemblies Required (continued) (N)

f. Where premises have internal cross-connections that are not abated to the satisfaction of the utility or the health agency.

g. Premises where cross-connections are likely to occur and entry is restricted so that cross-connection inspections cannot be made with sufficient frequency or at sufficiently short notice to assure that cross-connections do not exist.

h. Premises having a repeated history of cross-connections being established or re-established.

i. Premises that have more than one service connection present a loop-through hazard such that backflow protection on all service connections must be installed. Each backflow prevention assembly must be commensurate with the highest degree of hazard present, but must provide no less protection than a Double Check Valve Assembly.

j. Premises that have multiple users sharing one meter must install an RP due to the risk of occupancy change without notification to the utility.

k. Premises that store or handle materials or substances that, if introduced into the water supply, have the potential to pose a health-related or aesthetic risk to drinking water quality.

l. New or modified fire sprinkler systems: A backflow prevention assembly must be installed when new or modified non-residential fire sprinkler systems are installed. If potable water pipes are used to construct the sprinkler system, no chemicals are added, and there is no auxiliary supply, a Double Check Detector Assembly may be installed. If non-potable water pipes are used, or chemicals are added, or there is an auxiliary water supply, then a Reduced Pressure Principle Detector Assembly must be installed.

Residential fire sprinkler systems do not need a backflow prevention assembly if they are designed and installed using potable water piping and materials, and have connections to points of regular water use to prevent degradation of water quality. Systems that do not meet these requirements must be equipped, at a minimum, with a Double Check Valve Assembly (DC) located at the service connection. If chemical additives, on-site storage or (L)

(Continued)

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C. Cross-Connections (continued) (L)(N)

2. Backflow Prevention Assemblies Required (continued) | (N)

booster pumps are used, backflow protection must be a Reduced Pressure Principle Assembly (RP).

Where a premises is required to have an RP backflow prevention assembly installed on a metered service, a Reduced Pressure Principle Detector Assembly must also be installed on all new or modified fire service connections.

All new or modified fire systems that are being fitted with a backflow prevention assembly shall be designed by a licensed engineer at the customer's expense.

3. Type and Expense of Backflow Prevention Assemblies

a. Any backflow prevention assembly utilized shall be of the type and design specified and approved for the circumstances in Section 7604, Title 17 of the California Code of Regulations (or its successor, and the California Plumbing Code, except that a customer may utilize an approved backflow prevention assembly providing greater protection than required by Section 7604. Such backflow prevention assembly shall be installed by and at the expense of the customer, in a manner approved by the utility and the public health agency having jurisdiction.

b. Backflow prevention assemblies shall be tested, repaired or replaced at the expense of the customer.

c. Backflow preventer prevention assemblies shall be installed as close as practical to the customer's connection to the utility, prior to any tee or branch line, and in a location which that is readily available for periodic inspection.

d. Existing backflow prevention assemblies that are determined to provide an inadequate level of protection must be replaced by the appropriate level of protection instead of repaired. Inadequate backflow prevention assemblies must be replaced immediately, even if the existing assembly still passes the annual test, if there is an imminent health risk as determined by the utility.

e. A non-residential connection that has a backflow prevention assembly installed to abate an internal backflow hazard, whether at the recommendation of utility or as directed by a regulatory agency, must also install a backflow prevention assembly at the meter commensurate with the degree of hazard. The utility does not have any responsibility or authority to abate internal hazards or monitor testing of backflow prevention assemblies that are installed internal to a customer's premise. (L)

(Continued)

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C. Cross-Connections (continued) (L)(N)

3. Type and Expense of Backflow Prevention Assemblies (continued) |(N)

f. Residential Irrigation Systems: At the discretion of the utility, properly installed Reduced Pressure Principle Assemblies (RPs), pressure vacuum breakers (PVBs), or spill resistant pressure vacuum breakers (SVBs) may be accepted as protection on residential irrigation systems in lieu of protection at the meter, when no other hazards are present, provided they are tested and maintained in accordance with Section 4.

g. For dedicated road median irrigation systems, PVBs and SVBs are acceptable as service protection only if they are properly installed.

4. Periodic Testing of Backflow Prevention Assemblies

Whenever a backflow prevention assembly is installed, relocated, or repaired, the customer shall have it tested by persons who are certified to test backflow prevention assemblies by either the California Nevada Section of the American Water Works Association or the American Backflow Prevention Association.

Backflow prevention assemblies shall be tested at least annually or more frequently if determined to be necessary by the health agency or utility.

The utility shall notify the customer on record when testing of backflow prevention assemblies is needed. The notice shall give the date by which the test must be completed. The notice shall also inform the customer that, following the compliance date, the utility may have all untested assemblies tested and, if needed, repaired or replaced. The costs of all testing, repair, or replacement will be borne by the customer, and the utility may add such costs to the customer's water bill. In tenant-landlord situations, the utility shall not be responsible for determining the responsible party beyond notification of the customer of record.

Reports of testing and maintenance shall be maintained by the utility for a minimum of three years. Whenever a backflow prevention assembly is found to have failed, it must be repaired or replaced as soon as repair parts or a replacement assembly is available, but in no event later than the testing compliance date, or 20 days after testing, whichever comes first. If the assembly cannot or will not be repaired within 3 days of discovery of the failure, the backflow prevention assembly tester must notify the utility of the failure In cases where the failed assembly presents an immediate risk to public health, the service will be discontinued until the repairs or replacement is completed. (L)

(Continued)

Rule No. 16 Page 8
Service Connections, Meters, and Customer's Facilities

C. Cross-Connections (continued) (L) (N)

5. Refusal to Serve or Discontinuance of Service

The utility may refuse or discontinue service:

a. Until there has been installed on the customer's piping an approved backflow prevention assembly of the required type, if one is required.

b. Where the utility has been denied access to the customer's premises to make an evaluation.

c. Where the customer refuses to test a backflow prevention assembly, or to repair or replace a faulty backflow prevention assembly.

d. Where there is a direct or indirect connection between the public water system and a sewer line.

e. Where there is an unprotected direct or indirect connection between the public water system and a system or equipment containing contaminants.

f. Where there is an unprotected direct or indirect connection between the public water system and auxiliary water system.

g. When there is a situation which presents an immediate health hazard to the public water system.

6. Thermal Expansion

Prior to the installation of a backflow prevention assembly, it is the customers responsibility to have a qualified plumber mitigate the effects of thermal expansion. Failure to do so may create a dangerous condition resulting in damage and/or injury.

7. Pumps and Boosters

When a customer receiving service at the utility's main or service connection must, by means of a pump of any kind, increase the pressure of the water received, the pump shall not be attached to any pipe directly connected to the utility's main or service pipe. Such pumping or boosting of pressure shall be done at the option of the utility, either:

a. From a sump, cistern or storage tank which must be served through an air gap connection, or

b. From a combination of an approved backflow prevention assembly plus a device approved by the water utility to prevent the booster pump from drawing the (L)

(Continued)

Rule No. 16 Page 9
Service Connections, Meters, and Customer's Facilities

C. Cross-Connections (continued) (L)(N)

7. Pumps and Boosters (Continued) (N)

utility's system pressure below 20 psig.

This requirement of a pressure limiting device shall not apply to fire protection systems equipped with booster pumps.

8. Automatic Valves

Quick closing or opening valves shall not be installed on customer's pipes which are directly attached to the utility's mains or service pipes. A customer whose operation requires the use of a quick opening or closing valve must operate such device from a tank, cistern, sump or other facility which may be served by but not directly connected with the utility's distribution mains or service pipes. This restriction does not apply to quick closing or opening valves used in connection with normal household appliances such as automatic dishwashers or washing machines.

D. Recycled Water Service (T)

1. Construction

a. Material

(1) All on-site recycled water facilities must be readily distinguishable from all on-site potable water facilities. (T)

(2) Recycled water pipes may be of PVC dyed purple (Pantone 512) with continuous lettering **"CAUTION RECYCLED WATER"** applied at the factory. No other identification is required. (T) (T)

(3) All recycled water pipes except as specified in item 2 above, must be identified along their entire length with warning tape. The warning tape must be yellow in color, a minimum of 2 inches wide with the words **"RECYCLED WATER"** printed in 1" high black letters. The lettering should be repeated continuously the full length of the tape. (T) (T)

(4) All piping from the recycled water system shall be installed to maintain ten (10') feet minimum horizontal separation from all potable water piping. Where recycled and potable water piping cross, the recycled water piping shall be installed below the potable water piping in a PVC class 200 pipe sleeve which extends a minimum of five (5') feet on either side of the potable water piping. Additionally, a minimum vertical clearance of six (6") inches shall be provided. (T) (T) (L)

(Continued)

D. Recycled Water Service (continued) (L)(N)

1. Construction (continued) (N)

(5) All above ground recycled water facilities (risers, valves, controllers, etc.) must have identifying labels for recycled water. (T)

b. Valve Marking

Hose bibs are not permitted on the recycled water system (T)

c. Drawings Required

Applicants for recycled water service shall submit system plans for review and approval by the utility. (T)

d. Location

(1) Recycled water facilities shall not be installed inside any structures, indoor atriums or planters. (T)

(2) Drinking fountains and picnic tables shall be located to minimize exposure to direct and wind blown recycled water spray. (T)

(3) Recycled water shall not be sprayed outside the design area shown in the plans submitted in Section D.1.c. above. (T)

(4) Recycled water shall not be used to irrigate any enclosed private rear yard or patio. (T)

2. Cross Connection Control Requirements

a. Cross connection between the potable water system and the recycled water system is prohibited. (T)

b. Where recycled water and potable water service exist on the same site the potable water system shall be protected for backflow prevention with a California Department of Public Health approved backflow prevention assembly (reduced pressure principle assembly RP). Applicant shall pay all costs for the purchase, installation, and maintenance of backflow preventative devices. Final determination of the type of protection will be the responsibility of the water utility in conjunction with the Department of Public Health. (T)

c. Backflow prevention devices shall not be installed on recycled water systems and must be removed from potable irrigation systems which are converted to recycled water. (T)(L)

(Continued)

D. Recycled Water Service (continued) (L) (N)

2. Cross Connection Control Requirements (continued) (N)

d. Backflow prevention devices shall be tested as required and repaired or replaced as necessary at the expense of the customer.

3. Operational Requirements

a. The customer must appoint a Site Supervisor and provide name, title and 24-hour phone number(s) of designated Site Supervisor to the water utility. Alternate site supervisors may be appointed.

b. The Site Supervisor shall:

(1) Practice diligent surveillance of the system to ensure compliance with water utility rules, the California Department of Public Health regulations, and any local governmental requirements. Disregard for requirements could result in termination of service until the specified corrections are made.

(2) Educate occupants, residents, and on-site personnel on a continuous basis to insure that recycled water is used in compliance with the California Department of Public Health and any local governmental requirements. (T)

(3) Post warnings that recycled water shall not be used for human consumption or in the preparation of food. (T)

(4) Maintain the recycled water system to insure its integrity and minimize failures. Broken valves, pipes, and sprinklers shall be repaired in a timely manner. (T)

(5) Notify the water utility annually by January 31 that all the requirements in Rule 16 Section D Recycled Water have been met. (T)

4. Usage Guidelines

a. Avoid direct spray and minimize overspray on drinking fountains in areas irrigated with recycled water. (T)

b. Adjust sprinklers to minimize recycled water spray on picnic tables, benches, decks, patios, sidewalks and roads. (T)

c. Irrigate in a manner which will minimize ponding, and runoff. If necessary, use the "repeat" function of the irrigation controller to apply the required amount of water in several short duration cycles. (L)

(Continued)

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Service Connections, Meters, and Customer's Facilities

D. Recycled Water Service (continued) (L) (N)

5. Irrigation Time Restrictions

a. Irrigation in areas of human contact, parks, playgrounds, and school yards shall be during the late night/early morning hours (10:00 p.m. – 6:00 a.m.). Slopes adjacent to pedestrian walkways are considered areas where there is human contact.

b. No time restrictions apply to irrigation areas where there is minimal human contact.

6. Reporting and Inspections

a. The water utility shall be notified 48 hours prior to the start construction or pipeline installation in order to schedule inspection.

b. The water utility shall be notified immediately of a change in Site Supervisor.

c. All significant changes for the recycled water system shall be submitted to the water utility for pre-approval. (T)

d. As-built plans for the recycled water system including subsequent modifications shall be submitted to the water utility for approval. (T)

(L)