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**SUBSTANTIVE POLICY STATEMENT**  
SPS-EH-2012-014

A substantive policy statement (SPS) is advisory only. In accordance with A.R.S. §11-1601, SPS's do not include internal procedural documents that only affect internal procedures of the Maricopa Environmental Services Department and do not impose additional requirements or penalties on regulated parties or confidential information.

**1. SPS Subject:**

The purpose of this SPS is to clarify the permit requirements regarding hot water supply in food service establishments.

**2. Statutory Overview:**

- A. Maricopa County Environmental Health Code (MCEHC)
- B. 2009 International Plumbing Code

**3. SPS:**

The aforementioned regulation specifies that hot water must be sufficient to meet the peak hot water demands throughout the food service establishment. This SPS will further clarify the minimum requirements necessary for a hot water system.

**Storage Water Heaters**

- A. For all food service permits, a minimum 30-gallon capacity water heater is required.
- B. For establishments that only sell prepackaged food and the fixture demand is limited to no more than one service sink and two lavatories, a minimum 10-gallon capacity water heater is required.
- C. For establishments that use a three compartment sink for warewashing, the minimum capacity is 50 gallons.
- D. If mechanical dishwashing is utilized for warewashing, a minimum 75-gallon capacity water heater is required and must meet the hot water demands of all the establishments fixtures.
- E. For food establishments that utilize multiservice eating and drinking utensils, the water heater shall have a recovery rate equal to or greater than 100% of the computed hourly hot water demand, in gallons per hour (GPH).
- F. For food establishments that use only single-service eating and drinking utensils, or don't use utensils at all, the water heater shall have a recovery rate

equal to or greater than 80% of the computed hourly hot water demand, in GPH.

- G. When calculating hot water demand, the recovery rate of the hot water unit is more important than actual capacity, a minimum temperature rise of 60°F shall be used.
- H. The Department's hot water calculation table may be used to determine adequate water heater size and capacity.
- I. Hot water should be provided within 45 seconds to all sinks plumbed for hot or tempered water.
- J. A recirculation pump or point of use water heaters may be necessary to provide hot water within 45 seconds or if the water heater source is more than 60 feet away.

#### **Tankless (Instantaneous) Water Heaters**

- A. Tankless (Instantaneous) water heaters are approved by the Department on a case by case basis.
- B. Tankless (Instantaneous) water heaters must be sized to provide hot water of at least 120° Fahrenheit, and at a rate of at least two gallons per minute (GPM), to each sink and fixture that utilizes hot water. (Note: Hand lavatories must receive at least ½ GPM.)
- C. The Department may approve the use of a combination of storage and point-of-use water heaters if peak hot water demand has been provided.
- D. When calculating hot water demand, a minimum temperature rise of 60°F shall be used.
- E. The Department's hot water calculation table may be used to determine adequate water heater size and capacity.
- F. Hot water should be provided within 45 seconds to all sinks plumbed for hot or tempered water.
- G. A recirculation pump or point of use water heaters may be necessary to provide water within 45 seconds or if the water heater source is more than 60 feet away.

#### **Booster Heaters for High Temperature Dish machines**

- A. When a hot water sanitizing dish machine is used, a booster heater must be provided to supply at least 180°F water to the final rinse at the manifold and 140°F water temperature at supply. The rinse demand of the machine will

determine the heater capacity. Final dishware temperature must be at least 160°F.

**B.** Installation of the water heater and the booster heater should be as close as possible to the dish wash machine to avoid heat loss in the lines. When a booster heater is installed below a drain board, it shall be installed at least six inches above the floor and away from the wall, and in a manner that will allow accessibility for proper cleaning and servicing.

**4. SPS Effective Date:**

July 1, 2012

**5. SPS New Document/Revision Statement:**

SPS-EH-2012-014 is a new SPS.

**6. Contact Us:**

For questions or comments regarding this SPS or to obtain a copy of this document, please contact the Department Records Custodian at the address and/or phone number above.