Residential Water Heater Alteration
2016 Energy Code Permit Guide

City of Dublin
Building & Safety Division
www.dublin.ca.gov
925-833-6620

Permit DATE: Permit NUMBER: CA Climate Zone: 2 3 4 12

Permit ADDRESS: City, Zip:

This guide applies to: Storage gas water heaters with an input rating ≤ 75,000 Btu per hour; Instantaneous gas water heaters with an input rating ≤ 200,000 Btu per hour; and Electric water heaters 60 gallons or less. For other water heating system types and configurations refer to section 150.2(b) of the *2016 Building Energy Efficiency Standards*.

WHEN *REPLACING* AN EXISTING WATER HEATER:

What type of water heater do you plan to install?

- ☐ Natural gas or LPG/propane.
- ☐ Electric Resistance (Allowed only if natural gas is not available to building*)

WHEN *ADDING* A WATER HEATER:

If you plan to ADD anything other than a single gas or propane tankless water heater to a home that has an existing water heating system, you must use the Performance Compliance Approach** (See CEC Blueprint #113)

PIPE INSULATION:

The following pipes must have at least one inch of insulation

- ☐ First five feet of new or accessible existing hot and cold water pipes nearest a storage type water heater
- ☐ Any newly installed hot water piping ¾" or larger in diameter
- ☐ Any newly installed hot water piping between the water heater and kitchen fixtures
- ☐ Any newly installed hot water piping below grade

RECIRCULATION SYSTEMS:

Is there an existing recirculation system?

- ☐ Yes. If a recirculation system already exists, accessible pipes within the loop must be insulated when adding or replacing a water heater.
  - ☐ You can *replace* an existing recirc system with a "*demand recirc system with manual control*". All pipes in the loop must be insulated. Any other type requires the Performance Compliance Approach**.
- ☐ No
  - ☐ If you plan to *ADD* a recirc system, the Performance Compliance Approach must be used**. All pipes in the loop must be insulated.

ISOLATION VALVES:

- ☐ Newly installed tankless water heaters with an input rating greater than 6800 BTU/hr (2kW) require isolation valves on both cold water supply and hot water pipe leaving the water heater, and hose bibs or other fittings on each valve for flushing the water heater when the valves are closed.

Required Prescriptive Form:

- CF1R-ALT-01-E: Certificate of Compliance, Residential Alterations (only parts A, H and Declaration Statement)

For more information on 2016 Title 24 Part 6 requirements:

- Visit the CEC website: **www.energy.ca.gov/title24/2016standards/**
- Contact the CEC energy code hotline at (800) 772-3300 or email: **title24@energy.state.ca.us**
- Contact the BayREN Codes & Standards Program by email: **codes@bayren.org.**

---

* If replacing electric resistance water heater in a building where natural gas is available, only a heat pump water heater or gas water heater can be installed.

** Some alterations to existing water heating systems will substantially increase energy consumption. Additional conservation measures are likely required to offset this. The performance approach is a way to determine what measures will cost-effectively offset the additional use. Contact an energy consultant at www.cabec.org