The proposed guidelines substantially increase the mandatory requirements to complete the building science foundation of the program and ensure inclusion of ENERGY STAR qualified products.
MANDATORY REQUIREMENTS:
ALL Labeled Homes

- **Hot Water Efficiency**
  - Shower Heads < 2.0 gpm
  - Efficient Hot Water Distribution

- **ENERGY STAR Products**
  - Refrigerator, Dishwasher, Clothes Washer, where provided
  - ALP or Bulbs in 80% Sockets
  - Ceiling Fans, where provided

- **Six Checklists**
MANDATORY REQUIREMENTS:
EFFICIENT WATER HEATING SYSTEM

- **Energy Factor**
- **Distribution**
- **Insulated Piping**
- **Heat Trap Above Tank/Heater**

Adding an efficient distribution system to other efficient technologies, creates a complete advanced domestic hot water system.
There are three main options for complying with the requirement for an efficient hot water distribution system.

• **Core System (Wet Walls)**

• **Manifold System**

• **Demand Pumping System**
This home is designed with a very efficient “wet wall” or “core wall” plumbing design. The dark blue circle is the water heater, and the lighter blue boxes are the sinks and tubs.
The core wall contains very short runs to each fixture that minimize wait time for hot water, wasted water, and heat loss through pipes.
A manifold hot water distribution system takes a large feed from the water heater directly to each fixture with a dedicated line.
A typical single trunk and branch layout requires a significant amount of piping.
A demand pumping system features a dedicated hot water return to the tank with a pump.
A demand pumping system also includes switches or occupancy sensors and water temperature sensors at each fixture.
When the occupancy sensor is triggered or someone flips a switch, the pump circulates hot water until the sensor detects it at the activated fixture and shuts off the pump.
Demand pumping systems also recirculate water into the tank at room temperature, which is typically much warmer than the temperature of the inlet water from the utility.
As the improved envelope and equipment reduce heating and cooling energy use, lighting becomes a more significant part of the load. The proposed 2011 guidelines require every home to have advanced lighting.
Either 60% of the fixtures must be ENERGY STAR qualified or 80% of the sockets must include ENERGY STAR qualified CFLs.
Key appliances in kitchens, laundry rooms, and bathrooms also represent an increasing part of the remaining energy loads. Where provided by the builder, they must be ENERGY STAR qualified.