



Revised Draft Irrigation Audit Guidelines for
WaterSense[®] Labeled New Homes

May 8, 2009

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After the irrigation system is installed, a WaterSense irrigation partner must conduct an audit of the system. EPA prefers that the auditor be independent of the irrigation system designer and installation professional. If this is not the case, indicate what the irrigation partner's role was during design and installation on the *WaterSense Labeled New Home Irrigation Audit Checklist*. EPA recommends that the irrigation partner conduct the audit according to the Irrigation Association's *Certified Landscape Irrigation Auditor Training Manual* (2004). The audit shall include, but is not limited to, the following components:

A. Distribution Uniformity Calculation

Determine the lower quarter distribution uniformity (DU_{LQ}) of the system using the catch-can method or soil moisture probes. This test shall be conducted according to the Irrigation Association's [Recommended Audit Guidelines](#) and shall include areas of turfgrass only. The results of the test shall be recorded on the irrigation audit checklist. A DU_{LQ} of 70 percent or higher must be achieved to meet Criterion 4.2.4.

B. Verification of Specification Criteria by Visual Inspection

Conduct a visual inspection to verify the following specification criteria are met. The results of the visual inspection shall be recorded by the irrigation partner on the irrigation audit checklist.

- The irrigation system operates without leaks (Criterion 4.2.2).
- There is no runoff or overspray from the irrigation system that leaves the property during a minimum continuous operating duration. The [WaterSense irrigation partner](#) will determine the minimum operating duration based on landscape conditions and irrigation system design and record it on the irrigation audit checklist (Criterion 4.2.3).
- The irrigation system includes technology that inhibits or interrupts operation of the irrigation system during periods of rainfall (e.g., rain sensors) (Criterion 4.2.5).
- Irrigation controllers contain the following features (Criterion 4.2.6):
 1. Multiple programming capabilities – shall be capable of storing a minimum of three different programs to allow for separate schedules.
 2. Multiple start times (cycling, cycle/soak, stackable start times) – shall be capable of a minimum of three different start times to allow for multiple irrigation cycles on the same zone for areas prone to runoff.
 3. Variable run times – shall be capable of varying run times, for example from one minute to one hour.
 4. Variable scheduling – shall be capable of interval scheduling (minimum of 14 days) to allow for watering on even day scheduling, odd day scheduling, calendar day scheduling, and interval scheduling.
 5. Percent adjust (water budget) feature – shall include a “Percent Up/Down Adjust” feature (or “Water Budget” feature) such as a button or dial that permits the user to increase or decrease the run times or application rates for each zone by a prescribed percentage, by means of one adjustment, without modifying the settings for that individual zone.

6. Capability to accept external soil moisture and/or rain sensors.
 7. Non-volatile memory or self-charging battery circuit.
 8. Complete shutoff capability for total cessation of outdoor irrigation.
- Sprinkler irrigation, other than as part of a microirrigation system, is not used to water plantings other than maintained turfgrass (Criterion 4.2.7).
 - Sprinkler heads, other than as part of a microirrigation system, have a 4-inch or greater pop-up height and matched precipitation nozzles (Criterion 4.2.7).
 - Microirrigation systems include, at a minimum: pressure regulators, filters, and flush end assemblies (Criterion 4.2.8).
 - Verify that two schedules have been created and are posted by the irrigation controller (Criterion 4.2.9):
 - A schedule for the initial grow-in phase.
 - A schedule for the established landscape.

Both irrigation schedules shall be seasonal in nature, reflecting the varying irrigation needs throughout the year. In addition, schedules shall comply with local water restrictions.

WaterSense Labeled New Home Irrigation Audit Checklist

Site Information
Builder Name:
Lot Number/Street Address:
City:
State:
Zip:

Irrigation System Information
System Designer (name and company):
System Installer (name and company):
Additional Comments:

Audit Information
Date:
Time Started:
Time Ended:

<p>By affixing my signature below, I do hereby declare that I have audited the irrigation system in accordance with the <i>Water-Efficient Single-Family New Home Specification</i> and the <i>Irrigation Audit Guidelines for WaterSense Labeled New Homes</i>. If requested, I will provide the necessary supporting documents.</p>	
WaterSense Irrigation Partner Name:	Company Name:
Signature:	Date:

A. Lower Quarter Distribution Uniformity:

Irrigation system lower quarter distribution uniformity (DU_{LQ}) is _____%.

B. Verification of Specification Criteria by Visual Inspection:

Item	Criterion	Yes	No	NI*	
Outdoor Water-Efficiency Criteria – Irrigation System Design					
Leaks	4.2.2	The system operates without leaks			
Overspray	4.2.3	System prevents runoff and overspray from leaving the property Duration tested: _____			
DU _{LQ}	4.2.4	Minimum of 70%			
Rainfall shutoff device	4.2.5	System includes a technology that inhibits or interrupts operation of the irrigation system during periods of rainfall (e.g., rain sensors)			
Irrigation controller	4.2.6	Contains the following features: <ul style="list-style-type: none"> ○ Multiple programming capabilities – shall be capable of storing a minimum of three different programs to allow for separate schedules ○ Multiple start times (cycling, cycle/soak, stackable start times) – shall be capable of a minimum of three different start times to allow for multiple irrigation cycles on the same zone for areas prone to run off ○ Variable run times – shall be capable of varying run times, for example from one minute to one hour ○ Variable scheduling – shall be capable of interval scheduling (minimum of 14 days) to allow for watering on even day scheduling, odd day scheduling, calendar day scheduling, and interval scheduling ○ Percent adjust (water budget) feature – shall include a “Percent Up/Down Adjust” feature (or “Water Budget” feature) such as a button or dial that permits the user to increase or decrease the run-times or application rates for each zone by a prescribed percentage, by means of one adjustment without modifying the settings for that individual zone ○ Capability to accept external soil moisture and/or rain sensors ○ Non-volatile memory or self-charging battery circuit ○ Complete shutoff capability for total cessation of outdoor irrigation 			
Sprinkler irrigation	4.2.7	Not installed on plantings other than turfgrass. Note: This excludes components of a microirrigation system			
Sprinkler heads	4.2.7	Have a 4-inch or greater pop-up height and matched precipitation. Note: This excludes components of a microirrigation system			
Micro irrigation system	4.2.8	Includes a pressure regulator, filters, and flush end assemblies			
Schedule	4.2.9	Two seasonal water schedules (one for initial grow-in phase and one for established landscape) are posted at the controller			

* Not installed