

Subject 858

October 26, 2018

SUMMARY OF TOPICS

The following changes in requirements to the Standard for Household Electric Ranges, UL 858, are being proposed:

1. Update to Surface Element Turn Off

2. Off Marking and Heat Setting Clarification

STP BALLOTS AND ALL COMMENTS DUE: December 10, 2018

UL's goal is to have no interest category comprise more than one-third of the STP membership balance. To improve the current balance for STP 858, UL is looking for participants in the AHJ, Consumer, General, Government, Supply Chain, and Testing & Standards interest categories. Definitions for these interest categories are available on the Standards STP Internet site:

<http://ulstandards.ul.com/develop-standards/participation/interest-categories/>

If you are interested in applying for STP 858 membership or are aware of potential candidates for this STP, please contact the STP Project Manager, Amy.K.Walker@ul.com.

For your convenience in review, proposed additions to existing requirements are shown underlined and proposed deletions are shown ~~lined-out~~.

1. Update to Surface Element Turn Off

RATIONALE

Proposal submitted by: Stephen Gatz, Whirlpool Corp.

The interpretation of paragraph 47.2 has been that each element has a single operation to turn it off, which was appropriate for individually controlled elements. Electronic controls provide the ability to manage the overall power to multiple elements while allowing for enhanced user interfaces. With these improvements in control technology it is not necessary to turn each element off individually. The control can de-energize all of the elements with one input, reducing the steps to disrupt power to all elements quickly should an unintended event occur. The single input to turn off all surface elements will require the same software and hardware safety levels as an individual element control but when a single off control is provided, the individual element control circuit requirements may be reduced. An additional definition for the cooktop that includes all surface units is provided and used to distinguish between individual surface units and the combination of multiple units and controls.

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PROPOSAL

2.3.1 COOKTOP – A combination of multiple cooktop elements and which may include controls on the top surface of an appliance.

47.2.1 A single switch or control which turns all cooktop elements of the cooktop off satisfies the requirements of 47.2 provided that the control also resets all individual cooktop elements to an off state and the requirements of 47.1 are required to subsequently activate a cooktop element.

**Table SB5.1
Control functions**

Function Title	Requirement	UL 858 Reference	UL 858A Reference	Proposed UL 60730 Declaration			
				Hardware Safety Investigation			Software safety
				Function Class	Operating/ protective	Type	Class
Cooktop Control - Including the control of a warming zone element and induction cooktops							
2-Steps ON	The control for a surface unit shall require a minimum of two operations to activate the surface unit.	Section 47	Table 6.1	B	Operating	2	B
Two-Steps ON timing Characteristic	1. Single input cancelled after 30 seconds 2. Timing between touches	47.4	N/A	A	Operating	1	A
1-Step OFF <u>when an off switch per 47.2.1 is not provided</u>	The control for a surface unit shall require only one operation and shall be required to turn a surface unit off.	47.2	Table 6.1	B	Operating	2	B
1-Step OFF <u>when an off switch per 47.2.1 is provided</u>	<u>The control for a surface unit may require multiple steps or simultaneous switch operation.</u>	<u>47.2.1</u>	<u>Table 6.1</u>	<u>A</u>	<u>Operating</u>	<u>1</u>	<u>A</u>
1-Step OFF <u>when an off switch per 47.2.1 is provided</u>	<u>The control for a cooktop shall require only one operation and shall turn all surface units off.</u>	<u>47.2.1</u>	<u>Table 6.1</u>	<u>B</u>	<u>Operating</u>	<u>2</u>	<u>B</u>
Power On Indicator	A signal lamp shall be provided on an appliance to indicate when a surface unit is on.	Section 49	Table 6.1	A	Operating	1	A
Normal Temp. Test "Governor" - thermostatic in nature	A thermostatic control, that functions in a manner that prevents the prescribed conditions (see 59.3.2.10) shall operate as intended.	59.3.2.9	N/A	A	Operating	1	A
Normal Temperature Test "Governor" - non-thermostatic in nature	For a non-thermostatic control (such as a power limiting or element duty cycling/sharing control) that functions in a manner that prevents the prescribed conditions (see 59.3.2.10) shall operate as intended.	59.3.2.9	N/A	A	Operating	1	A
Cooktop automatic Time-out	A cooktop control shall not have a user adjustable timeout feature or any timeout feature that is described in the user manual or user I/O functionality	N/A	N/A	N/A	N/A	N/A	N/A

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Table SB5.1 Continued

Function Title	Requirement	UL 858 Reference	UL 858A Reference	Proposed UL 60730 Declaration			
				Hardware Safety Investigation			Software safety
				Function Class	Operating/protective	Type	Class
Element Off Independence – Avoidance of Inadvertent ON	1. Double Line Break (DLB) device should be dedicated to individual surface elements; or 2. The control monitors the state of each primary/cycling heating element switch and disables DLB switch if a fault is detected.	25.1.12, 25.1.17	N/A	A	Operating	1	A
Attendance Sensing – functionality this de-energizes a cooktop if nonattendance is sensed.	Cooktops can be provided with “attendance sensing” controls, provided the following operational features are maintained: • The control initiates a shutdown sequence after a duration of nonattendance is sensed. • The nonattendance duration shall not exceed 5 minutes. • The non-attendance duration shall not be readily adjustable; password –protected duration adjustment during commissioning is acceptable • The control shall visually and/or audibly alert the user that de-energization will occur no less than 2 minutes before shutdown. • After shutdown, direct, local user interaction with control circuitry is required to resume cooktop operation. • The direct, local user interaction shall include a minimum of two discreet steps.	N/A	N/A	A	Operating	1	A

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