<table>
<thead>
<tr>
<th><strong>DOCKETED</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Docket Number:</strong></td>
<td>20-AAER-04</td>
</tr>
<tr>
<td><strong>Project Title:</strong></td>
<td>Appliance Efficiency Standards Regulations for Portable Electric Spas</td>
</tr>
<tr>
<td><strong>TN #:</strong></td>
<td>237796</td>
</tr>
<tr>
<td><strong>Document Title:</strong></td>
<td>Express Terms for Portable Electric Spas</td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td>Express Terms (45-day language) for portable electric spas appliance efficiency rulemaking.</td>
</tr>
<tr>
<td><strong>Filer:</strong></td>
<td>Jessica Lopez</td>
</tr>
<tr>
<td><strong>Organization:</strong></td>
<td>California Energy Commission</td>
</tr>
<tr>
<td><strong>Submitter Role:</strong></td>
<td>Commission Staff</td>
</tr>
<tr>
<td><strong>Submission Date:</strong></td>
<td>5/14/2021 9:05:45 AM</td>
</tr>
<tr>
<td><strong>Docketed Date:</strong></td>
<td>5/14/2021</td>
</tr>
</tbody>
</table>
The proposed changes to the Title 20 regulations are provided below. Changes to the regulations are marked with underlining (new language) and strikethroughs (deletions). Three dots or “…” represents the substance of the existing regulations that will remain unchanged between the sections containing proposed language changes.

§ 1602. Definitions

[skipping (a) through (f)]

(g) Pool Heaters; Portable Electric Spas; Residential Pool Pump and Motor Combinations, and Replacement Residential Pool Pump Motors; and Pumps, Dedicated-Purpose Pool Pumps, and Replacement Dedicated-Purpose Pool Pump Motors.

[skipping (1)]

(2) Portable Electric Spas Definitions

[skipping “Combination spa” to “Exercise spa portion”]

“Fill volume” means the water capacity of the portable electric spa, in gallons, at the halfway point between the bottom of the skimmer opening and the top of the skimmer opening. In the absence of a skimmer, the fill volume is six inches below the overflow level of the spa as defined in the test method in section 1604(g)(2)(B).1

[skipping “Inflatable spa” through end of 1602]

Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and Sections 16, 26 and 30, Governor’s Exec. Order No. B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c), 25402.5.4 and 25960, Public Resources Code; and Section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).
§ 1604. Test Methods for Specific Appliances.

...[skipping (a) through (f)]

(g) Pool Heaters; Portable Electric Spas; Residential Pool Pump and Motor Combinations, and Replacement Residential Pool Pump Motors; and Pumps, Dedicated-Purpose Pool Pumps, and Replacement Dedicated-Purpose Pool Pump Motors.

...[skipping (1)]

(2) Test Method for Portable Electric Spas.

(A) The test method for portable electric spas manufactured on or after January 1, 2006, and before June 1, 2019, is as follows:

1. Minimum continuous testing time shall be 72 hours.

2. The spa shall be filled with water to the halfway point between the bottom of the skimmer basket opening and the top of the spa. If there is no skimmer basket, the spa shall be filled with water to six inches below the top of the spa.

3. The water temperature shall be 102°F, ± 2°F for the duration of the test.

4. The ambient air temperature shall be 60°F, ± 3°F for the duration of the test.

5. The standard cover that comes with the unit shall be used during the test.

6. The test shall start when the water temperature has been at 102°F, ± 2°F for at least four hours.

7. Record the total energy use for the period of test, starting at the end of the first heating cycle after the stabilization period specified in Section 1604(g)(2)(A)6., and finishing at the end of the first heating cycle after 72 hours has elapsed.

8. The unit shall remain covered and in the default operation mode during the test. Energy-conserving circulation functions, if present, must not be enabled if not appropriate for continuous, long-term use. Ancillary equipment including, but not limited to lights, audio systems, and water treatment devices, shall remain connected to the mains but may be turned off during the test if their controls are user-accessible.

9. The measured standby power shall be normalized to a temperature difference of 37°F using the equation:

\[ P_{\text{norm}} = P_{\text{meas}} \times \frac{\Delta T_{\text{ideal}}}{\Delta T_{\text{meas}}} \]
Where:

\[ P_{\text{meas}} = \text{measured standby power during test (E/t)} \]

\[ \Delta T_{\text{ideal}} = 37^\circ\text{F} \]

\[ \Delta T_{\text{meas}} = T_{\text{water avg}} - T_{\text{air avg}} \]

\[ T_{\text{water avg}} = \text{Average water temperature during test} \]

\[ T_{\text{air avg}} = \text{Average air temperature during test} \]

10. Data reported shall include: spa identification (make, model, S/N, specifications); volume of the unit in gallons; supply voltage; minimum, maximum, and average water temperatures during test; minimum, maximum, and average ambient air temperatures during test; date of test; length of test \((t, \text{in hours})\); total energy use during the test \((E, \text{in Wh})\); and normalized standby power \((P_{\text{norm}}, \text{in watts})\).

(B) The test method for portable electric spas manufactured on or after June 1, 2019, is ANSI/APSP/ICC-14 2014, excluding section 8.2, and with the following modifications:

1. All portable electric spas shall be filled with water to the halfway point between the bottom of the skimmer opening and the top of the skimmer opening. In the absence of a skimmer, the fill volume is six inches below the overflow level of the spa.

2. For standard spas and inflatable spas, the test shall start when the water temperature has been at 102°F, ±2°F for at least four hours. The water temperature of the spa shall be a minimum 100°F for the duration of the test.

3. For exercise spas, the test shall start when the water temperature has been at 87°F, ±2°F for at least four hours. The water temperature of the spa shall be a minimum 85°F for the duration of the test. If the exercise spa is capable of maintaining a minimum water temperature of 100°F for the duration of the test, the exercise spa shall be tested in accordance with section 1604(g)(2)(B)2.

4. For combination spas, the standard spa portion shall be tested in accordance with section 1604(g)(2)(B)2, and the exercise spa portion shall be tested in accordance with section 1604(g)(2)(B)3. Record the total energy use for each spa portion separately as described in Section 5.6.5 of ANSI/APSP/ICC-14 2014, while both spa portions are powered on for the duration of the test.

(A) The test method for portable electric spas is ANSI/APSP/ICC-14 2019.

(B) Test lab report requirements for portable electric spas manufactured on or after June 1, 2019. In addition to the requirements of section 5 and Appendix D of
ANSI/APSP/ICC-14 2014 and section 1606 Table X of this Article, test lab reports shall include: date of test; minimum and maximum water temperatures settings; copy of the label(s) per section 1607(d)(13)(B) of this Article; minimum, maximum, and average water temperatures during test; minimum, maximum, and average ambient air temperatures during test; length of test (in hours); record and plot ambient air temperature (in degrees Fahrenheit), water temperature (in degrees Fahrenheit), current (in amps), and voltage (in volts) at a maximum interval of five minutes during test; and, for inflatable spas, a list of the accessories that were tested with the spa.

...[skipping rest of (g) through (x)]

The following documents are incorporated by reference in Section 1604.

<table>
<thead>
<tr>
<th>Number</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copies available from:</td>
<td>The Association of Pool and Spa Professionals</td>
</tr>
<tr>
<td></td>
<td>2111 Eisenhower Avenue, Suite 500</td>
</tr>
<tr>
<td></td>
<td>Alexandria, VA 22314-4695</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.apsp.org">www.apsp.org</a></td>
</tr>
<tr>
<td></td>
<td>Phone: (703) 838-0083</td>
</tr>
</tbody>
</table>

...[skipping CANADIAN STANDARDS ASSOCIATION (CSA) through INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)]

THE POOL AND HOT TUB ALLIANCE

| Copies available from:      | Pool & Hot Tub Alliance                                               |
|                             | 2111 Eisenhower Avenue, Suite 500                                     |
|                             | Alexandria, VA 22314-4695                                             |
|                             | PHTA.org                                                              |
|                             | Phone: (703) 838-0083                                                 |
Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and Sections 16, 26 and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and Section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

...[skipping (a) through (f)]

(g) Pool Heaters; Portable Electric Spas; Residential Pool Pump and Motor Combinations, and Replacement Residential Pool Pump Motors; and Pumps, Dedicated-Purpose Pool Pumps, and Replacement Dedicated-Purpose Pool Pump Motors.

...[skipping (1) through (6)]

(7) Portable Electric Spas.

(A) The normalized standby power, as defined in Section 1604(g)(2)(A) of this Article, of portable electric spas manufactured on or after January 1, 2006, shall be no greater than \(5(V^{2/3}) \) watts, where \(V\) = the fill volume, in gallons.

(BA) The normalized standby power (\(P_{\text{norm}}\)), as defined in Table G-5, of portable electric spas manufactured on or after June 1, 2019, shall be no greater than the applicable values shown in Table G-5.

Table G-5
Standards for Portable Electric Spas

<table>
<thead>
<tr>
<th>Appliance</th>
<th>Normalized Standby Power ((P_{\text{norm}})) Condition</th>
<th>Maximum Standby Power (Watts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard spas and the standard spa portion of combination spas</td>
<td>as-defined in Section 6.1 and 6.2 of ANSI/APSP/ICC-14-2014, Where: (\Delta T_{\text{std}} = 37) degrees Fahrenheit (21 degrees Celsius)</td>
<td>(3.75V^{2/3}+40)</td>
</tr>
<tr>
<td>Exercise spas and the exercise spa portion of combination spas</td>
<td>as-defined in Section 6.1 and 6.3 of ANSI/APSP/ICC-14-2014, Where: (\Delta T_{\text{std}} = 22) degrees Fahrenheit (-5.6 degrees Celsius)</td>
<td>(3.75V^{2/3}+40)</td>
</tr>
</tbody>
</table>
| Exercise spas and the exercise spa portion of combination spas capable of maintaining a minimum water temperature of 100°F for the duration of the test | as defined in Section 6.1 and 6.2 of ANSI/APSP/ICC-14 2014  
Where:  
ΔTstd = 37 degrees Fahrenheit (21 degrees Celsius) | 3.75V^{2/3}+40 |
| Inflatable spas | as defined in Sections 6.1 and 6.2 of ANSI/APSP/ICC-14 2014  
Where:  
ΔTstd = 37 degrees Fahrenheit (21 degrees Celsius) | 7(V^{2/3}) |

Where:

\[ P_{\text{norm}} = \frac{P_{\text{meas}} (\Delta T_{\text{std}}/\Delta T_{\text{meas}})}{\Delta T_{\text{meas}}}, \text{ in Watts}; \]

\[ P_{\text{meas}} = \frac{E}{t}; \]

\[ E = \text{total energy use during the test, in Watt-hours}; \]

\[ t = \text{length of test, in hours}; \]

\[ \Delta T_{\text{meas}} = T_{\text{water avg}} - T_{\text{air avg}}; \]

\[ T_{\text{water avg}} = \text{average water temperature during test}; \]

\[ T_{\text{air avg}} = \text{average air temperature during test}; \]

\[ V = \text{the fill volume, in gallons}. \]

The following documents are incorporated by reference in Section 1605.3.

<table>
<thead>
<tr>
<th>Number</th>
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<tbody>
<tr>
<td>...[skipping (8) through (x)]</td>
<td></td>
</tr>
<tr>
<td>Copies available from:</td>
<td>The Association of Pool and Spa Professionals</td>
</tr>
<tr>
<td></td>
<td>2111 Eisenhower Avenue, Suite 500</td>
</tr>
</tbody>
</table>
§ 1606. Filing by Manufacturers; Listing of Appliances in Database.

(a) Filing of Statements.

...[skipping first paragraph through (3)]

Table X
Data Submittal Requirements

<table>
<thead>
<tr>
<th>Appliance</th>
<th>Required Information</th>
<th>Permissible Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Appliances</td>
<td>*Manufacturer’s Name</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*Brand Name</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*Model Number</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Date model to be displayed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regulatory Status</td>
<td>Federally regulated consumer product, federally regulated commercial and industrial equipment, non-federally regulated</td>
</tr>
</tbody>
</table>

...[skipping Non-Commercial Refrigerators, Non-Commercial Refrigerator-Freezers, Non-Commercial Freezers through Replacement Dedicated-Purpose Pool Pump Motors manufactured on or after July 19, 2021]

<table>
<thead>
<tr>
<th>G</th>
<th>Portable Electric Spas</th>
<th>*Spa Type</th>
<th>Combination Spa, Exercise Spa, Inflatable Spa, Standard Spa</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>*Tested Spa Cover Model Number (applies to models manufactured on or after June 1, 2019 only)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tested Spa Cover Manufacturer (applies to models manufactured on or after June 1, 2019 only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated Capacity (number of people)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated Voltage (volts)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tested Spa Cover Is Insulated (applies to models manufactured on or after June 1, 2019 only)</td>
<td>True, False</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spa Enclosure Is Fully Insulated</td>
<td>True, False</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spa Includes a Skimmer</td>
<td>True, False</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum water temperature setting is less than 100°F (for exercise spas and the exercise spa portion of combination spas only) (applies to models manufactured on or after June 1, 2019 only)</td>
<td>True, False</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portable Electric Spa Rated Volume (gallons) (for standard spas, inflatable spas, and the standard spa portion of combination spas only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exercise Spa Rated Volume (gallons) (for exercise spas and the exercise spa portion of combination spas only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portable Electric Spa Fill Volume (gallons) (for standard spas, inflatable spas, and the standard spa portion of combination spas only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exercise Spa Fill Volume (gallons) (for exercise spas and the exercise spa portion of combination spas only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portable Electric Spa Normalized Standby Power (watts) (for standard spas, inflatable spas, and the standard spa portion of combination spas only)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Exercise Spa Normalized Standby Power (watts) (for exercise spas and the exercise spa portion of combination spas only)

* "Identifier" information as described in Section 1602(a) of this Article.

1 = Voluntary for federally regulated appliances

2 = Voluntary for state-regulated appliances

...[skipping to the end of section 1606]

Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code; and Sections 16, 26 and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c), 25402.5.4 and 25960, Public Resources Code; and Section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

§ 1607. Marking of Appliances.

...[skipping (a) through (c)]

(d) Energy Performance Information.

...[skipping (1) through (13)]

(13) Portable Electric Spas

(A) All portable electric spas manufactured on or after June 1, 2019, shall be marked by the manufacturer with the label specified in section 1607(d)(13)(B) of this Article. The label shall be legible, conspicuously displayed to the consumer, and be removed only by the consumer.

1. For standard, exercise, and combination spas, the label shall be affixed on a readily visible location on the shell or skirt panel of the unit.

2. For inflatable spas, the label shall be affixed on a readily visible location on the unit’s retail packaging.

(B) The label for all portable electric spas shall conform to the design specifications listed in subdivisions (d)(13)(B)1. through (d)(13)(B)4. in this section (inclusive). If the spa has been tested with multiple spa covers, the label shall display the most recent performance data, the model number, and the manufacturer, as listed in MAEDbS, of the tested spa cover of the spa unit-cover combination that yielded the maximum normalized standby power test result obtained in accordance with section 1605.3(g)(7)(BA) of this Article and Section 7.2 of ANSI/APSP/ICC-14 version 2019. The label may display the most recent spa cover model number(s) and corresponding spa cover manufacturer(s) for other covers tested with the unit. If
the label lists multiple spa covers, the label shall display the spa cover model number(s) and corresponding spa cover manufacturer(s) of the spa covers tested with the unit as listed in MAEDbS.

1. Label Specifications. The label shall be formatted as shown in Figure 1 and as directed in subdivision (d)(13)(B)2. of this section.

Figure 1. Label Design
2. Letter Codes for Figure 1 Label Design. Letter codes for Figure 1 above:

   a. Shall be printed on a white label with black text.

   b. Minimum label width: 5 inches.


   d. Leaf color: equivalent to Pantone 363 green (also permitted to be black).

   e. Water drop color: equivalent to Pantone 7691 blue (also permitted to be black).
f. Font: Helvetica Neue Black; character height shall not be less than 15 point type. For standard spas, inflatable spas, and the standard spa portion of combination spas the text shall state the following: Portable Electric Spa. For exercise spas and the exercise spa portion of combination spas, the text shall state the following: Exercise Spa.

g. Font: Helvetica Neue Black; character height shall not be less than 24 point type. Text shall state the following: California ENERGY GUIDE.

h. Font: Arial Bold; character height shall not be less than 9.5 point type. Text shall state the following:

Manufacturer: [insert name of manufacturer here]
Model: [insert model number here]
Capacity (# of people): [insert number of people here].

i. Font: Arial Bold; character height shall not be less than 9.5 point type. Text shall state the following: Rated Volume.

j. Font: Arial Bold; character height shall not be less than 16 point type. The text shall state the value of the rated volume in U.S. gallons and shall state the units of the rated volume as follows: US Gal.

k. Font: Arial Bold; character height shall not be less than 16 point type. The text shall state the following: Standby Power* [insert the normalized standby power value resulting from the test in watts here, rounded to a whole number] Watts.

l. Font: Helvetica Neue Black; character height shall not be less than 24 point type. The text shall state the normalized standby power value resulting from the test in Watts, rounded to a whole number, and shall state the units of the tested standby power.

m. The standby power chart arrow shall be scaled at the appropriate location between the minimum and maximum power range using the normalized standby power test result value for the spa which is being installed. The minimum standby power shall be 50 watts, and the maximum standby power shall be 450 watts for standard spas, inflatable spas, and the standard spa portion of combination spas. The minimum standby power shall be 100 watts and the maximum standby power shall be 750 watts for exercise spas and the exercise spa portion of combination spas. If the normalized standby power test result is outside the power range, add or subtract, in increments of 50 watts, from the minimum or maximum power range values, until the
normalized standby power test result is within the power range and update the minimum or maximum power range values on the label.

n. Font: Arial Bold; character height shall not be less than 12 point type.

o. Font: Arial Bold; character height shall not be less than 9.5 point type. The text shall state the following: Average Standby Power Range of Spa Models.

p. Font: Arial; character height shall not be less than 8 point type, and may be horizontally scaled to no less than 85 percent. The text shall state the following:

Maximum standby power allowed for this size spa under California Code of Regulations (CCR) Title 20, section 1605.3(g)(7)(B) of this Article and ANSI/APSP/ICC-14 2014 [(optional) insert 2019]: [insert the allowed maximum normalized standby power value based on fill volume, rounded to a whole number] Watts.

Total annual power consumption in standby mode*: [insert the normalized standby power value resulting from the test in watts here, rounded to a whole number] x Duty Cycle = [insert calculated value of total annual power consumption in standby mode here in kilowatts per hour, rounded to a whole number] kWh.

Annual Standby Energy Cost* = [insert total annual power consumption value here, rounded to a whole number] x Energy Rate (cost per kilowatt hour in your area).

*Data is based on standard test procedure for Portable Electric Spas as stipulated in CCR Title 20, section 1604(g)(2)(B) and ANSI/APSP/ICC-14 2014 [(optional) insert 2019]. Note: This is the amount of power used during test conditions and does not include spa usage or extreme cold conditions. This data should be used only for comparison of spa models. Power is not monthly energy consumption. Duty cycle is estimated to be [insert duty cycle value in hours here. For standard spas, exercise spas, and combinations spas insert 8,760. For inflatable spas, insert 5,040] hours per year.

Based on testing with the spa manufacturer’s specified cover checked below, the spa cover-unit combination that yielded the highest normalized standby power. This spa must be sold with this cover or a manufacturer’s approved equivalent that has also been tested with the unit per CCR Title 20, section 1608(a). To view the energy performance of the other covers specified below in combination with this unit, visit the California Energy Commission’s Modern Appliance Efficiency Database System (MAEDbS).
Tested Cover Manufacturer(s): ☐ [insert name of manufacturer(s) here, names shall be preceded by a checkbox].

Tested Cover Model(s): ☐ [insert cover model number(s) here, model numbers shall be preceded by a checkbox].

q. The format for the maximum standby power value and total annual power consumption value is the following: Font: Arial Bold. Character height shall not be less than 8 point type and may be horizontally scaled to no less than 85 percent.

r. Font: Arial Bold; character height shall not be less than 8 point type, and may be horizontally scaled to no less than 85 percent. The text shall state the following: Power calculated based on standby mode testing. Actual values will vary based on use.

s. Font: Arial Bold; character height shall not be less than 8 point type, and may be horizontally scaled to no less than 85 percent. The text shall state the following: This Label Must Remain Adhered to Spa until Time of Sale to Consumer.

t. Font Arial; character height shall not be less than 8 point type, and may be horizontally scaled to no less than 85 percent. The text shall state the following: Printed on [insert the month, day, and year the label was printed on].

u. The checkbox of the tested spa cover model number and corresponding spa cover manufacturer coinciding with the performance data shall be marked on the label.

3. The label shall be printed:

a. on a removable adhesive-backed white polymer label or the equivalent for standard, exercise, and combination spas.

b. as specified in subdivision (d)(13)(B)3.a. or integrated as part of the unit’s retail packaging design for inflatable spas.

4. All adhesive labels shall be applied so they can be easily removed without the use of tools or liquids, other than water, but shall be applied with an adhesive with an adhesion capacity sufficient to prevent dislodgment during normal handling throughout the chain of distribution to the consumer.

...[skipping through (16)]

The following documents are incorporated by reference in Section 1607.

Copies available from: Pool & Hot Tub Alliance
2111 Eisenhower Avenue, Suite 500
Alexandria, VA 22314-4695
PHTA.org
Phone: (703) 838-0083

Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code. Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c) and 25960, Public Resources Code.