

DOCKETED

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Project Title:	Appliance Efficiency Standards Regulations for Portable Electric Spas
TN #:	237796
Document Title:	Express Terms for Portable Electric Spas
Description:	Express Terms (45-day language) for portable electric spas appliance efficiency rulemaking.
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1 **California Code of Regulations**
2 **Title 20. Public Utilities and Energy**
3 **Division 2. State Energy Resources Conservation and Development**
4 **Commission**
5 **Chapter 4. Energy Conservation**
6 **Article 4. Appliance Efficiency Regulations**

7 The proposed changes to the Title 20 regulations are provided below. Changes to the
8 regulations are marked with underlining (new language) and ~~strikethroughs~~ (deletions).
9 Three dots or "... " represents the substance of the existing regulations that will remain
10 unchanged between the sections containing proposed language changes.

11 **§ 1602. Definitions**

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

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

16 ...[skipping (1)]

17 (2) Portable Electric Spas Definitions

18 ...[skipping "Combination spa" to "Exercise spa portion"]

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

23 ...[skipping "Inflatable spa" through end of 1602]

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

29 § 1604. Test Methods for Specific Appliances.

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

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

34 ...[skipping (1)]

35 (2) Test Method for Portable Electric Spas.

36 (A) ~~The test method for portable electric spas manufactured on or after January 1,~~
37 ~~2006, and before June 1, 2019, is as follows:~~

38 ~~1. Minimum continuous testing time shall be 72 hours.~~

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

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

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

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

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

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

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

56 ~~9. The measured standby power shall be normalized to a temperature difference of~~
57 ~~37°F using the equation;~~

58
$$P_{\text{norm}} = P_{\text{meas}} \frac{\Delta T_{\text{ideal}}}{\Delta T_{\text{meas}}}$$

59 Where:

60 P_{meas} = measured standby power during test (E/t)

61 ΔT_{ideal} = 37°F

62 ΔT_{meas} = $T_{\text{water-avg}} - T_{\text{air-avg}}$

63 $T_{\text{water-avg}}$ = Average water temperature during test

64 $T_{\text{air-avg}}$ = Average air temperature during test.

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

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

- 73 1. ~~All portable electric spas shall be filled with water to the halfway point~~
74 ~~between the bottom of the skimmer opening and the top of the skimmer~~
75 ~~opening. In the absence of a skimmer, the fill volume is six inches below the~~
76 ~~overflow level of the spa.~~
- 77 2. ~~For standard spas and inflatable spas, the test shall start when the water~~
78 ~~temperature has been at 102°F, ±2°F for at least four hours. The water~~
79 ~~temperature of the spa shall be a minimum 100°F for the duration of the test.~~
- 80 3. ~~For exercise spas, the test shall start when the water temperature has been~~
81 ~~at 87°F, ±2°F for at least four hours. The water temperature of the spa shall~~
82 ~~be a minimum 85°F for the duration of the test. If the exercise spa is capable~~
83 ~~of maintaining a minimum water temperature of 100°F for the duration of the~~
84 ~~test, the exercise spa shall be tested in accordance with section~~
85 ~~1604(g)(2)(B)2.~~
- 86 4. ~~For combination spas, the standard spa portion shall be tested in accordance~~
87 ~~with section 1604(g)(2)(B)2., and the exercise spa portion shall be tested in~~
88 ~~accordance with section 1604(g)(2)(B)3. Record the total energy use for each~~
89 ~~spa portion separately as described in Section 5.6.5 of ANSI/APSP/ICC-14~~
90 ~~2014, while both spa portions are powered on for the duration of the test.~~

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

92 (B) (C) Test lab report requirements for portable electric spas manufactured on or after
93 June 1, 2019. In addition to the requirements of section 5 and Appendix D of

94 ANSI/APSP/ICC-14 ~~2014~~2019 and section 1606 Table X of this Article, test lab
95 reports shall include: ~~date of test~~; minimum and maximum water temperatures
96 settings; copy of the label(s) per section 1607(d)(13)(B) of this Article; ~~minimum,~~
97 ~~maximum, and average water temperatures during test~~; ~~minimum, maximum, and~~
98 ~~average ambient air temperatures during test~~; length of test (in hours); record and
99 plot ambient air temperature (in degrees Fahrenheit), water temperature (in
100 degrees Fahrenheit), current (in amps), and voltage (in volts) at a maximum interval
101 of five minutes during test; and, for inflatable spas, a list of the accessories that
102 were tested with the spa.

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

104 The following documents are incorporated by reference in Section 1604.

105 *Number* *Title*
106 ...[skipping CALIFORNIA ENERGY COMMISSION TEST METHODS through AMERICAN
107 SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS
108 (ASHRAE)]

109 ~~THE ASSOCIATION OF POOL AND SPA PROFESSIONALS (APSP)~~

110 ~~ANSI/APSP/ICC 14 2014~~ ~~American National Standard for Portable Electric Spa~~
111 ~~Energy Efficiency~~

112 ~~Copies available from:~~ ~~The Association of Pool and Spa Professionals~~
113 ~~2111 Eisenhower Avenue, Suite 500~~
114 ~~Alexandria, VA 22314 4695~~
115 ~~www.apsp.org~~
116 ~~Phone: (703) 838-0083~~

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

119 THE POOL AND HOT TUB ALLIANCE

120 ANSI/APSP/ICC-14 2019 American National Standard for Portable Electric Spa
121 Energy Efficiency

122 Copies available from: Pool & Hot Tub Alliance
123 2111 Eisenhower Avenue, Suite 500
124 Alexandria, VA 22314-4695
125 PHTA.org
126 Phone: (703) 838-0083
127

128

129

...[skipping to the end of section 1604]

130 Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960,
131 Public Resources Code; and Sections 16, 26 and 30, Governor's Exec. Order No. B-29-15
132 (April 1, 2015). Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c) and 25960,
133 Public Resources Code; and Section 16, Governor's Exec. Order No. B-29-15 (April 1,
134 2015).
135

136 § 1605.3. State Standards for Non-Federally-Regulated Appliances.

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

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

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

142 (7) Portable Electric Spas.

143 ~~(A) The normalized standby power, as defined in Section 1604(g)(2)(A)9. of this Article,~~
 144 ~~of portable electric spas manufactured on or after January 1, 2006, shall be no greater~~
 145 ~~than $5(V^{2/3})$ watts, where V = the fill volume, in gallons.~~

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

149 Table G-5
 150 Standards for Portable Electric Spas

Appliance	Normalized Standby Power (P_{norm}) Condition	Maximum Standby Power (Watts)
Standard spas and the standard spa portion of combination spas	as defined in Section 6.1 and 6.2 of ANSI/APSP/ICC 14 2014 <u>Where:</u> <u>$\Delta T_{std} = 37$ degrees Fahrenheit (21 degrees Celsius)</u>	$3.75V^{2/3}+40$
Exercise spas and the exercise spa portion of combination spas	as defined in Section 6.1 and 6.3 of ANSI/APSP/ICC 14 2014 <u>Where:</u> <u>$\Delta T_{std} = 22$ degrees Fahrenheit (-5.6 degrees Celsius)</u>	$3.75V^{2/3}+40$

161 Alexandria, VA 22314-4695
 162 www.apsp.org
 163 Phone: (703) 838-0083

164 ...[skipping to the end of section 1605.3]

165 Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and 25960,
 166 Public Resources Code; and Sections 16, 26 and 30, Governor's Exec. Order No. B-29-15
 167 (April 1, 2015). Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c) and 25960,
 168 Public Resources Code; and Section 16, Governor's Exec. Order No. B-29-15 (April 1,
 169 2015).

170 § 1606. Filing by Manufacturers; Listing of Appliances in Database.

171 (a) Filing of Statements.

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

173 Table X
 174 Data Submittal Requirements

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

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

G	Portable Electric Spas	*Spa Type	Combination Spa, Exercise Spa, Inflatable Spa, Standard Spa
		*Tested Spa Cover Model Number (applies to models manufactured on or after June 1, 2019 only)	

	Tested Spa Cover Manufacturer (applies to models manufactured on or after June 1, 2019 only)	
	Rated Capacity (number of people)	
	Rated Voltage (volts)	
	Tested Spa Cover Is Insulated (applies to models manufactured on or after June 1, 2019 only)	True, False
	Spa Enclosure Is Fully Insulated	True, False
	Spa Includes a Skimmer	True, False
	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)	True, False
	Portable Electric Spa Rated Volume (gallons) (for standard spas, inflatable spas, and the standard spa portion of combination spas only)	
	Exercise Spa Rated Volume (gallons) (for exercise spas and the exercise spa portion of combination spas only)	
	Portable Electric Spa Fill Volume (gallons) (for standard spas, inflatable spas, and the standard spa portion of combination spas only)	
	Exercise Spa Fill Volume (gallons) (for exercise spas and the exercise spa portion of combination spas only)	
	Portable Electric Spa Normalized Standby Power (watts) (for standard spas, inflatable spas, and the standard spa portion of combination spas only)	

		Exercise Spa Normalized Standby Power (watts) (for exercise spas and the exercise spa portion of combination spas only)	
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178 * "Identifier" information as described in Section 1602(a) of this Article.

179 1 = Voluntary for federally regulated appliances

180 2 = Voluntary for state-regulated appliances

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

182 Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and
 183 25960, Public Resources Code; and Sections 16, 26 and 30, Governor's Exec. Order No.
 184 B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25401.9, 25402(a)-25402(c),
 185 25402.5.4 and 25960, Public Resources Code; and Section 16, Governor's Exec. Order
 186 No. B-29-15 (April 1, 2015).

187 § 1607. Marking of Appliances.

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

189 (d) Energy Performance Information.

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

191 (13) Portable Electric Spas

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

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

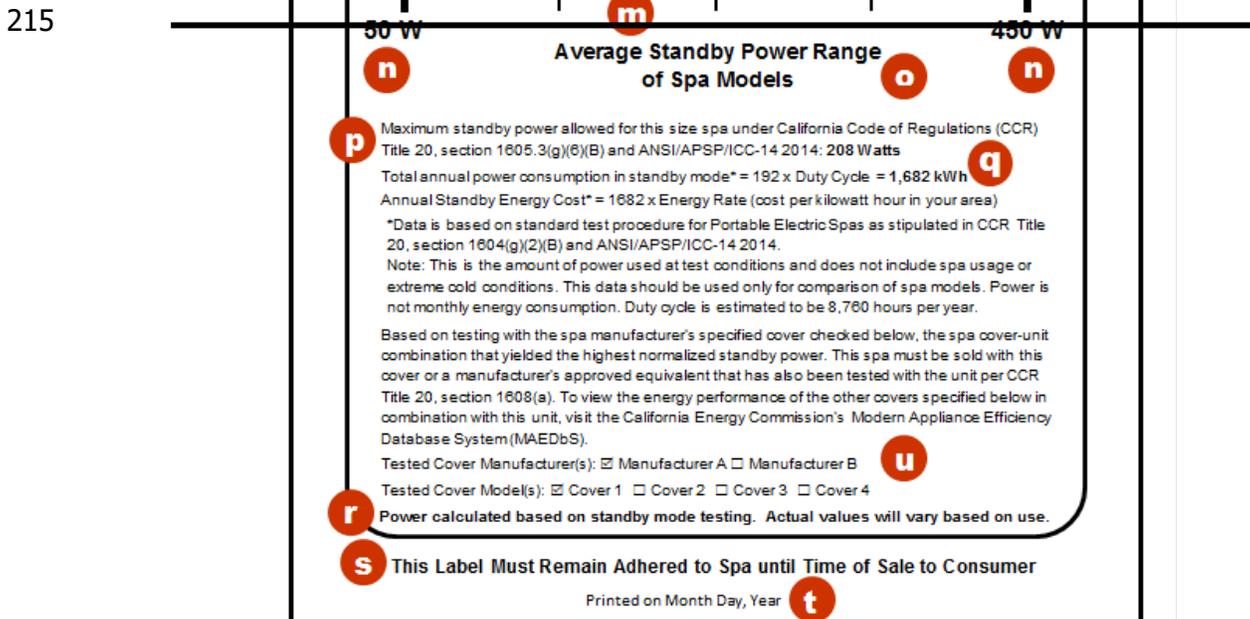
198 2. For inflatable spas, the label shall be affixed on a readily visible location on the
 199 unit's retail packaging.

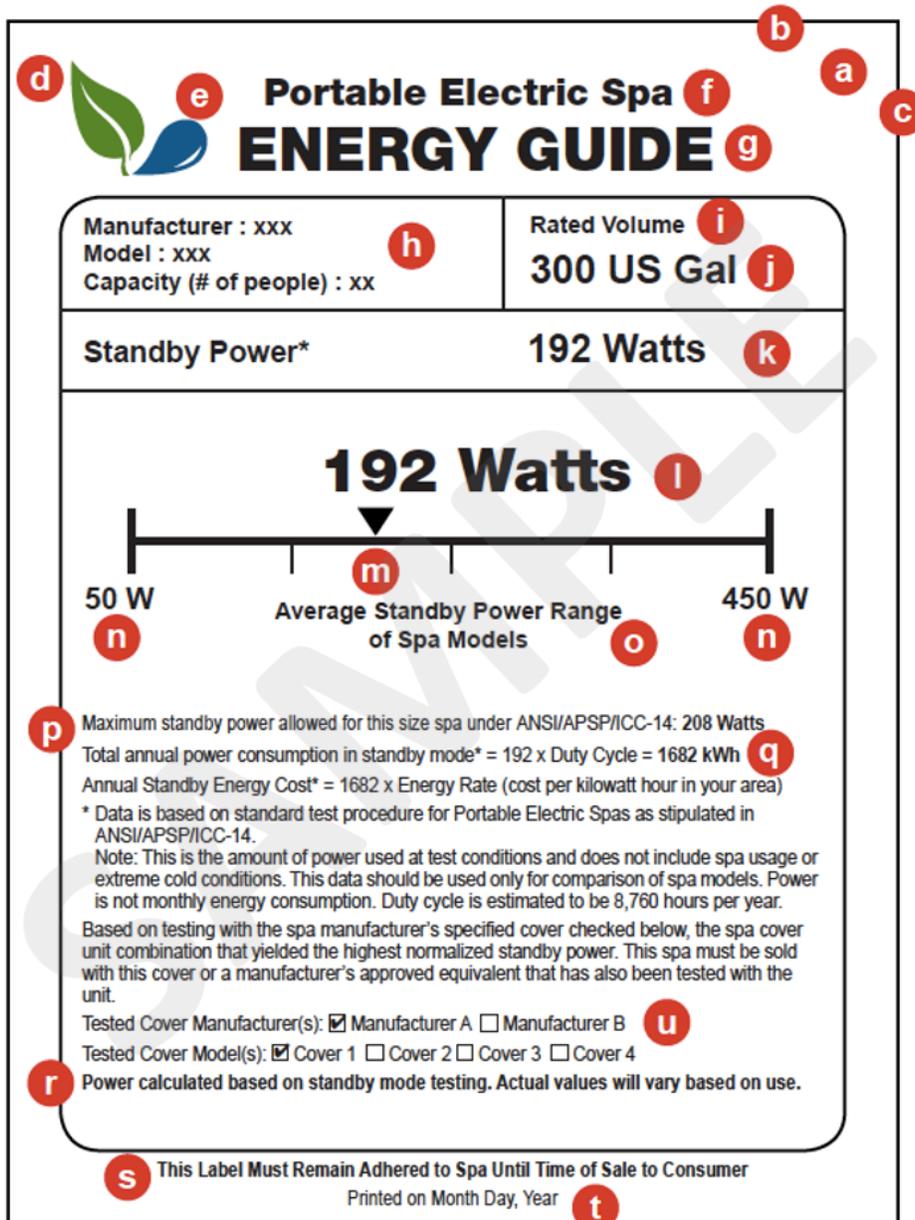
200 (B) The label for all portable electric spas shall conform to the design specifications
 201 listed in subdivisions (d)(13)(B)1. through (d)(13)(B)4. in this section (inclusive). If
 202 the spa has been tested with multiple spa covers, the label shall display the most
 203 recent performance data, the model number, and the manufacturer, as listed in
 204 MAEDbS, of the tested spa cover of the spa unit-cover combination that yielded the
 205 maximum normalized standby power test result obtained in accordance with section
 206 1605.3(g)(7)(BA) of this Article and Section 7.2 of ANSI/APSP/ICC-14 version 2019.
 207 The label may display the most recent spa cover model number(s) and
 208 corresponding spa cover manufacturer(s) for other covers tested with the unit. If

209 the label lists multiple spa covers, the label shall display the spa cover model
 210 number(s) and corresponding spa cover manufacturer(s) of the spa covers tested
 211 with the unit as listed in MAEDbS.

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

214 Figure 1. Label Design





216

217

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

218

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

219

b. Minimum label width: 5 inches.

220

c. Minimum label height: 6.275 inches.

221

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

222

e. Water drop color: equivalent to Pantone 7691 blue (also permitted to be black).

223

- 224 f. Font: Helvetica Neue Black; character height shall not be less than 15 point
225 type. For standard spas, inflatable spas, and the standard spa portion of
226 combination spas the text shall state the following: Portable Electric Spa. For
227 exercise spas and the exercise spa portion of combination spas, the text shall
228 state the following: Exercise Spa.
- 229 g. Font: Helvetica Neue Black; character height shall not be less than 24 point
230 type. Text shall state the following: California ENERGY GUIDE.
- 231 h. Font: Arial Bold; character height shall not be less than 9.5 point type. Text
232 shall state the following:
- 233 Manufacturer: [insert name of manufacturer here]
- 234 Model: [insert model number here]
- 235 Capacity (# of people): [insert number of people here].
- 236 i. Font: Arial Bold; character height shall not be less than 9.5 point type. Text
237 shall state the following: Rated Volume.
- 238 j. Font: Arial Bold; character height shall not be less than 16 point type. The text
239 shall state the value of the rated volume in U.S. gallons and shall state the
240 units of the rated volume as follows: US Gal.
- 241 k. Font: Arial Bold; character height shall not be less than 16 point type. The
242 text shall state the following: Standby Power* [insert the normalized standby
243 power value resulting from the test in watts here, rounded to a whole
244 number] Watts.
- 245 l. Font: Helvetica Neue Black; character height shall not be less than 24 point
246 type. The text shall state the normalized standby power value resulting from
247 the test in Watts, rounded to a whole number, and shall state the units of the
248 tested standby power.
- 249 m. The standby power chart arrow shall be scaled at the appropriate location
250 between the minimum and maximum power range using the normalized
251 standby power test result value for the spa which is being installed. The
252 minimum standby power shall be 50 watts, and the maximum standby power
253 shall be 450 watts for standard spas, inflatable spas, and the standard spa
254 portion of combination spas. The minimum standby power shall be 100 watts
255 and the maximum standby power shall be 750 watts for exercise spas and
256 the exercise spa portion of combination spas. If the normalized standby
257 power test result is outside the power range, add or subtract, in increments
258 of 50 watts, from the minimum or maximum power range values, until the

259 normalized standby power test result is within the power range and update
260 the minimum or maximum power range values on the label.

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

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

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

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

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

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

280 *Data is based on standard test procedure for Portable Electric Spas as
281 stipulated in ~~CCR Title 20, section 1604(g)(2)(B) and ANSI/APSP/ICC-14 2014~~
282 ~~[(optional) insert 2019]~~. Note: This is the amount of power used during test
283 conditions and does not include spa usage or extreme cold conditions. This
284 data should be used only for comparison of spa models. Power is not monthly
285 energy consumption. Duty cycle is estimated to be [insert duty cycle value in
286 hours here. For standard spas, exercise spas, and combinations spas insert
287 8,760. For inflatable spas, insert 5,040] hours per year.

288 Based on testing with the spa manufacturer's specified cover checked below,
289 the spa cover-unit combination that yielded the highest normalized standby
290 power. This spa must be sold with this cover or a manufacturer's approved
291 equivalent that has also been tested with the unit ~~per CCR Title 20, section~~
292 ~~1608(a). To view the energy performance of the other covers specified below~~
293 ~~in combination with this unit, visit the California Energy Commission's Modern~~
294 ~~Appliance Efficiency Database System (MAEDbS).~~

295 Tested Cover Manufacturer(s): [insert name of manufacturer(s) here,
296 names shall be preceded by a checkbox].

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

299 q. The format for the maximum standby power value and total annual power
300 consumption value is the following: Font: Arial Bold. Character height shall
301 not be less than 8 point type and may be horizontally scaled to no less than
302 85 percent.

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

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

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

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

318 3. The label shall be printed:

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

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

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

327 ...[skipping through (16)]

328 The following documents are incorporated by reference in Section 1607.

329	<i>Number</i>	<i>Title</i>
330	...	[skipping CALIFORNIA ENERGY COMMISSION and AMERICAN SOCIETY OF HEATING,
331		REFRIGERATING AND AIR-CONDITIONING ENGINEERS (ASHRAE)]
332		<u>THE POOL AND HOT TUB ALLIANCE</u>
333	<u>ANSI/APSP/ICC -14 2019</u>	<u>American National Standard for Portable Electric Spa</u>
334		<u>Energy Efficiency</u>
335	<u>Copies available from:</u>	<u>Pool & Hot Tub Alliance</u>
336		<u>2111 Eisenhower Avenue, Suite 500</u>
337		<u>Alexandria, VA 22314-4695</u>
338		<u>PHTA.org</u>
339		<u>Phone: (703) 838-0083</u>
340		...[skipping to end of section 1607]
341	Note: Authority cited: Sections 25213, 25218(e), 25401.9, 25402(a)-25402(c) and	
342	25960, Public Resources Code. Reference: Sections 25216.5(d), 25401.9, 25402(a)-	
343	25402(c) and 25960, Public Resources Code.	
344		
345		