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FINAL STATEMENT OF REASONS

Portable Electric Spas and Battery Charger Systems Appliance Efficiency Rulemaking

California Energy Commission
Docket Number 18-AAER-02
OAL Notice Number Z-2018-0123-01

June 2018

INTRODUCTION

Existing law requires the California Energy Commission to reduce the inefficient consumption of energy and water by prescribing efficiency standards and other cost-effective measures, including incentive programs, fleet averaging, energy and water consumption labeling, and consumer education programs, for appliances that require a significant amount of energy or water to operate on a statewide basis. Such standards must be technologically feasible and attainable and must not result in any added total cost to the consumer over the designed life of the appliance.

The Appliance Efficiency Regulations (Title 20, Sections 1601-1609 of the California Code of Regulations) contain definitions, test procedures, labeling requirements, and efficiency standards for state and federally regulated appliances. Appliance manufacturers are required to certify to the Energy Commission that their products meet all applicable state and federal regulations pertaining to efficiency before their products can be included in the Energy Commission's database of approved appliances to be sold or offered for sale within California.

In December 2004, the Energy Commission adopted appliance efficiency regulations for portable electric spas. Portable electric spas are factory-built, free-standing electric spas or hot tub units that can be rigid, flexible, or inflatable. They are characterized as above-ground units that are electrically heated and not permanently installed in the ground or attached to a pool. They are supplied with pumps, heaters, and jets for heating, circulation, filtration, and maintenance - all of which result in significant energy consumption statewide. The regulations provide that portable electric spas manufactured on or after January 1, 2006, and sold or offered for sale in California must comply with testing, efficiency, marking, and certification requirements in the Appliance Efficiency Regulations. The efficiency regulations focus on reducing the energy consumption of portable electric spas by setting a maximum standby power limit as a function of volume. The Energy Commission decided to revisit these requirements once

information became available that further efficiency improvements were possible and cost effective.

The adopted regulations update the performance standard to align with the efficiency of portable electric spas currently in the market, create a separate standard for inflatable spas to encourage the design and development of more efficient inflatable spas, update the test procedure to accommodate exercise spas that operate below 100°F, clarify the test procedure and certification requirements for combination spas, and add a labeling requirement to help consumers make informed choices.

In August 2012, the Energy Commission adopted efficiency regulations for battery charger systems. As part of these efficiency regulations, the Commission required manufacturers to mark compliant battery chargers with a “BC” in a circle, allowing for a quick check as to whether a battery charger complied with the standards or not. In addition, battery charger manufacturers are required to certify products to the Commission’s appliance efficiency database. This provides another means to check compliance by comparing the model number of the product with the model number in the database.

In June 2016, the U.S. Department of Energy (DOE) established energy efficiency standards for many of the battery chargers subject to California’s standards. Those federal standards will take effect on June 13, 2018, and preempt California’s efficiency standards. The U.S. DOE requires certification of battery chargers meeting the efficiency standards, but does not require the “BC” mark to demonstrate compliance. The adopted regulations harmonize with the U.S. DOE’s approach by removing the “BC” mark for federally regulated battery chargers.

PROCEDURAL HISTORY

On January 29, 2018, the Energy Commission published a Notice of Proposed Action (NOPA), proposed Express Terms, Initial Statement of Reasons (ISOR), and an Economic and Fiscal Impact Statement and supporting analysis for amendments to the portable electric spas and battery charger systems energy efficiency regulations. The NOPA was published in the California Regulatory Register Notice on February 2, 2018, starting the 45-day comment period, which ran through March 19, 2018. After reviewing comments received, the Energy Commission issued a Notice of Availability of 15-Day Language on March 22, 2018 and, on April 11, 2018, after considering all comments received, the Energy Commission unanimously adopted the proposed regulations.

Update Of The Initial Statement Of Reasons – Government Code section 11346.9(a)(1)

Government Code Section 11346.9(a)(1) requires the Final Statement of Reasons to include an update of the information contained in the ISOR. Other than the changes noted below, no other changes to the ISOR are necessary. Those items not addressed below are incorporated by reference. No new studies, reports, or documents not already noticed in the Initial Statement of Reasons were relied upon.

The following explanation of 45-Day Language changes was inadvertently absent from the ISOR:

- In section 1602(g), defining “rated volume” to distinguish it from the term “fill volume.” This definition is necessary to support the labeling requirements and certifications, which request information about the rated volume to allow consumers to make informed decisions about their spas.

The following changes were made in 15-Day Language:

- In section 1604(g)(2)(C), adding “per section 1607(d)(14)(B)” to the language, to clarify the test lab report shall include a copy of the label as specified in section 1607(d)(14)(B). This change is necessary to ensure manufacturers attach the correct label, as other labels may be placed on the unit.
- In section 1606(a)(4)(A)(5)(i), removing the requirement that the declaration must include, in addition to the statement that all units of the appliance are marked as required by section 1607, a statement detailing the specific labeling requirements applicable to spas. Upon further review, reiterating the labeling requirements from section 1607 in the declaration is unnecessary. The requirement to declare that all marking requirements in section 1607 have been met, as stated in the existing language, is sufficient to ensure compliance with the appliance efficiency provisions.
- In section 1607(d)(14)(A), specifying the location of the label for inflatable spas. This change is necessary because inflatable spas are typically sold in packaging, so the manufacturer must label the package (not the spa inside) to ensure the consumer is able to see the label before purchasing the unit.
- In section 1607(d)(14)(B), modifying the language:
 - To reflect that manufacturers may list additional spa covers other than the spa cover coinciding with the performance data on the label. This change is necessary to promote and inform consumers of more efficient options.

- To reflect that manufacturers must list the model number and manufacturer of the tested spa cover coinciding with the performance data on the label, and all other spa covers tested with the unit as they were certified to the Energy Commission's appliance efficiency database. This change is necessary to ensure that the information displayed on the label is as reported in the database.
- In sections 1607(d)(14)(B)(1) (label design in Figure 1) and 1607(d)(14)(B)(2) (Letter Codes):
 - Adding "California" to the title. This change is necessary to help the consumer differentiate between a label that meets California's requirements and other performance energy guide labels.
 - Specifying the units for the rated volume shall be stated as "US Gal" to ensure consumers understand the volume is measured in US gallons.
 - Adding instructions on how to adjust the power range scale in case the normalized standby power test result is outside the initial set of parameters. This change is necessary to ensure the chart arrow is within the performance bar scale and to ensure the label does not restrict large compliant spas from using the label.
 - Deleting the statement indicating the spa sizes applicable to the maximum power range values to ensure the label does not restrict large compliant spas from using the label.
 - Adding citations to California's appliance efficiency regulations corresponding to portable electric spas. This change is necessary to correctly reference the source of the efficiency standards and test procedure that the label is based on.
 - Specifying that the performance data is the result of the spa cover-unit combination that yielded the higher normalized standby power. This change is necessary to inform the consumer the label represents the least efficient combination and promotes the purchase of more efficient spa cover-unit combinations.
 - Specifying that the performance data for additional spa covers are available at the Energy Commission's appliance efficiency database. This change is necessary to inform consumers where to find the performance data for the other covers listed on the label.
 - Adding a checkbox requirement for the tested spa cover manufacturer and model number to allow manufacturers to check which spa cover model number and spa cover manufacturer coincide with the performance data displayed on the label.

- Specifying the format of listing additional spa covers. This change is necessary to have consistency between labels to avoid customer confusion.
 - Adding the printing date of the label. This change is necessary to verify compliance.
 - Specifying that manufacturers must mark the checkbox for the spa cover model number and spa cover manufacturer coinciding with the performance data displayed on the label. This change is necessary to allow the consumer to identify which spa cover corresponds with the performance data on the label, if other spa covers are listed on the label.
- In section 1607(d)(14)(B)(3), specifying for inflatable spas that the label may be printed on an adhesive-backed white label or integrated as part of the retail packaging artwork design. This change is necessary to provide manufacturers options to effectively display the label on a unit's retail packaging for inflatable spas.

Additionally, a typographical error was found in the 15-Day Language that has been corrected in the final language. In section 1607(d)(14)(B), the second to last sentence transposed *the* and *with* (“other covers tested the with unit”). This has been corrected to read “other covers tested with the unit.” This is a non-substantive change that does not require further noticing. Two other typographical changes were made throughout section 1607(d)(14)(B)(2) to correct inconsistencies in usage – periods were added to sentences that did not have them and the word “character” was changed from an uppercase C to a lowercase c.

Local Mandate Determination – Government Code Sections 11346.5(a)(5); 11346.9(a)(2)

The Energy Commission has determined that these regulations will not impose a mandate on local agencies or school districts.

Consideration Of Alternative Proposals – Government Code Section 11346.9(a)(4)
The Energy Commission has determined that no reasonable alternative considered by the Energy Commission, or that has otherwise been identified and brought to the Energy Commission's attention, would be more effective in carrying out the purpose for which the regulations are proposed, would be as effective and less burdensome to affected private persons than the adopted regulations, or would be more cost effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.

For portable electric spas, the Energy Commission considered four main alternatives prior to settling on the regulations as ultimately adopted. Alternative 1 considered maintaining the pre-existing requirements and was rejected because it would not have been as effective as the adopted regulations at improving the energy efficiency of portable electric spas. Alternative 2 considered a standard that was 25 percent more stringent than the pre-existing standard (with a 25 percent more efficient standby standard, modified test procedure, spa cover reporting, and spa unit labeling) and was rejected because it may not be cost effective and because consumers would accumulate fewer benefits through energy savings due to the higher cost to comply. Alternative 3 considered the same proposal as Alternative 2 but, in addition, exempted inflatable spas from the requirement; this alternative was rejected because it would not be as effective as the adopted regulations or equally effective in obtaining energy efficiency improvements from inflatable spas. Alternative 4 considered a moderate standby standard for standard, exercise, and combination spas and a separate standard for inflatable spas and is reflected in the adopted regulations.

Comments received during the formal rulemaking process focused on minor clarifying changes to the regulations. One commenter asked that the labeling requirement be modified to allow the listing of all covers that were tested, not just the one that resulted in the highest energy consumption. The Energy Commission made the requested change in 15-Day Language. No changes were proposed that would have made the regulations more effective with regard to energy efficiency gains, less burdensome, or more cost effective.

With regard to changes to the battery charger systems' marking requirement, all comments received were supportive of the proposal and no alternatives were proposed. The change to the regulations results in a benefit to affected private persons because it removes the marking requirement for those battery charger systems that are federally regulated; no alternative would be less burdensome or more cost effective.

Discussion of Proposed Alternatives that would Lessen the Adverse Economic Impact on Small Businesses – Government Code Section 11346.9(a)(5)

The adopted regulations will not have a significant adverse economic impact on small business and no alternatives were proposed that would lessen any adverse economic impact on small business.

For portable electric spas, the adopted regulations can be met by implementing common and relatively inexpensive design changes. These design changes may require manufacturers to include better insulation in the spa and in the spa cover, such as increasing the R-value of the foam, applying uniform insulation within the body of the

spa, adding radiant barriers, and by improving the control settings of the spa. The costs to incorporate these changes are added to the retail price of the unit but do not exceed the benefits of an efficient portable electric spa. Furthermore, based on the data available in the Modernized Appliance Efficiency Database (MAEDbS), approximately 77 percent of the portable electric spas (excluding inflatable spas) that are currently being sold meet the adopted standard. Thus, the adopted efficiency standard can be met by incorporating existing efficiency technologies in portable electric spas. Finally, consumers of portable electric spas are not generally price-sensitive, so the increase in the initial cost of a spa is not likely to have any discernable impact on the number of spas sold in the state, and therefore no adverse impact to businesses that manufacture and sell portable electric spas.

With regard to battery charger systems, this rulemaking will benefit both small and large manufacturers of battery charger systems that are federally regulated by eliminating the requirement that manufacturers mark such systems with a “BC”.

Incorporation by Reference – Title 1, Cal. Code of Regulations, section 20(c)
These regulations incorporate by reference ANSI/APSP/ICC-14 2014, American National Standard for Portable Electric Spa Energy Efficiency from the Association of Pool and Spa Professionals (APSP). This document is 24 pages in length and was made available for review from February 2, 2018 through April 11, 2018, at the Energy Commission at 1516 Ninth Street, Sacramento, California 95814 on business days from 9:00 am to 5:00 pm. All available contact information, including internet addresses, physical addresses, and phone numbers for how to obtain the document from the publisher, was provided in the NOPA and in the adopted text. The document, however, is copyrighted and, other than allowing viewing of the document at the Energy Commission, copies could not be provided without violating the document’s terms of use. The document was, and remains, available for purchase directly from the publisher for \$87.00 for members of the APSP or \$165.00 for non-members.

In this rulemaking, the affected public consists of manufacturers of portable electric spas and test laboratories that are hired by these entities to conduct the required testing. Many of these companies likely already have the required document, and if not, this document would only need to be procured once no matter how many models the manufacturers would be testing and certifying to the Energy Commission’s database. Therefore, the Commission has determined that the cost to obtain this document is nominal for the entities that are subject to these regulations. Because the document was available for viewing at the Energy Commission and because the fee for obtaining copies of the document is a nominal one-time expense that can be easily absorbed by the entities being regulated, the Commission concludes that this document was and

remains reasonably available to the affected public in conformance with California Code of Regulations, title 1, section 20(c).

Publishing this document in the California Code of Regulations would be cumbersome, unduly expensive, or otherwise impractical. First, doing so would likely violate copyright laws. Second, even if the first problem could be overcome, attempting to incorporate this test procedure verbatim into the Energy Commission's regulations would congest the already heavily populated energy efficiency regulations and make it more difficult to navigate the Energy Commission's requirements. Doing so for the myriad test procedures and other technical documents contained in the Energy Commission's energy efficiency standards as a whole would be cumbersome, unduly expensive, and otherwise impractical. Therefore, the Energy Commission believes that incorporating the document by reference is justifiable.

UPDATED INFORMATIVE DIGEST – Government Code Section 11347.3(b)(2)
Pursuant to Government Code section 11346.9(b), there have been no changes in applicable laws or to the effect of the proposed regulations from the laws and effects described in the Notice of Proposed Action.

RESPONSE TO COMMENTS

Written Comments Received During the 45-Day Comment Period

1. Jennifer Hatfield, Association of Pool and Spa Professionals (APSP), February 28, 2018

- a. The ANSI/APSP/ICC-14 Standard for Portable Electric Spa Energy Efficiency is referenced in the International Swimming Pool and Spa Code (ISPSC). States that have either adopted the ISPSC or have legislation requiring compliance with this standard, must meet the efficiency requirements within (the APSP-14 is part of model energy efficiency appliance legislation that is currently being considered in Washington, Rhode Island, Massachusetts and Vermont). We support the inclusion of this standard in the CEC proposed regulation but have concerns with aspects of the current proposal that are not consistent with the APSP-14. We also recognize there are aspects of the proposal that should be included in future revisions to APSP-14.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- b. Definitions inconsistent with APSP-14. Recommendation: Because 1602 will be referencing APSP-14 almost as a whole, it is recommended to use the same definitions for spas and exercise spas to minimize confusion.

Energy Commission Response: The Energy Commission has deviated from the definitions of ANSI/APSP/ICC-14 2014 (APSP-14) only where necessary to

ensure consistency with the existing regulations (which will continue to apply to spas manufactured before the effective date of these regulations) or where necessary to comply with Administrative Procedure Act requirements concerning clarity of regulatory language. The definition for portable electric spas as defined by the Energy Commission will in essence remain the same to ensure products currently covered will remain within the scope when the proposed language becomes effective. In addition, parts of the definition for “spa” and “exercise spa” from APSP-14 are too broad or limiting to be used verbatim in these regulations.

The definition for “spa” in APSP-14 states, “A spa usually includes a filter, a heater (electric, solar, or gas), a pump or pumps, and a control and may also include ... [other equipment].” The term “usually” can be interpreted that the listed equipment are not always included in a spa. The adopted regulations cover only electric spas, and requires the heating and circulating equipment be supplied to ensure portable electric spas can follow and complete the test procedure.

The definition for “exercise spa” in APSP-14 states, “Variant of a spa in which the design and construction includes specific features and equipment to produce a water flow intended to allow recreational physical activity including, but not limited to, swimming in place. Exercise spas may include peripheral jetted seats intended for water therapy, heater, circulation and filtration system, or may be a separate distinct portion of a combination spa/exercise spa and may have separate controls. These aquatic vessels are of a design and size such that it has an unobstructed volume of water large enough to allow the 99th Percentile Man as specified in ANSI/APSP-16 2011 to swim or exercise in place.” This definition encompasses the definition of “spa” in APSP-14, which is broad, as discussed above. In addition, this definition tries to define a combination spa within the definition of exercise spa. The Energy Commission believes a separate definition for combination spas is necessary to implement the proposed regulations and to provide clarity within the regulations. Requiring a design and size that allows the 99th Percentile Man to swim or exercise in an exercise spa, as is required in the APSP-14 definition, would unnecessarily restrict the design of exercise spas. Finally, the Energy Commission tries to limit the use of defining covered products based on their intended use but rather their operation and functional use to ensure that the regulations are enforceable at the point-of-sale, where the intended use is not necessarily evident. Thus, this recommendation was not implemented.

- c. Combination spa - No formal definition in APSP-14. Recommendation: Create definition in line with APSP-14 language. Add new definition to APSP-14: “Combination Spa: Variant of a spa and swim spa consisting of the combination of two separate basins with independent water temperature controls. One side is dedicated for exercising at a lower water temperature and the other for elevated temperature soaking/hydrotherapy massage.”

Energy Commission Response: This request was not implemented to ensure products currently covered would remain within the scope when the proposed language becomes effective. In addition, parts of the definition for *spa* and *exercise (or swim) spa* from ANSI/APSP/ICC-14 2014 (APSP-14) are variously too broad or limiting. See response to comment 1(b) for additional details. In addition, the proposed definition by the Energy Commission for combination spas aligns with the essence of the recommended definition: “Combination spa” means a portable electric spa with two separate distinct reservoirs, where (1) one reservoir is an exercise spa; (2) the second reservoir is a standard spa; and (3) each reservoir has an independent water temperature setting control.

- d. Exercise spa – only abbreviated. Recommendation: Should reference formal APSP-14 definition as a whole. “[E]xercise spa (Also known as a swim spa): Variant of a spa in which the design and construction includes specific features and equipment to produce a water flow intended to allow recreational physical activity including, but not limited to, swimming in place. Exercise spas may include peripheral jetted seats intended for water therapy, heater, circulation and filtration system, or may be a separate distinct portion of a combination spa/exercise spa and may have separate controls. These aquatic vessels are of a design and size such that it has an unobstructed volume of water large enough to allow the 99th Percentile Man as specified in ANSI/APSP-16 2011 to swim or exercise in place.”

Energy Commission Response: This request was not implemented. See response to comment 1(b) for additional details.

- e. “Exercise Spa Portion” not well defined. Definition not needed. Recommendation: Remove “Exercise Spa Portion” because it is a duplication of “exercise spa” and the intent can be better covered in the definition of Combination Spa.

Energy Commission Response: This request was not implemented because defining “exercise spa portion” separately is necessary to implement the proposed regulations and to provide clarity within the regulations as they apply to combination spas.

- f. APSP-14 does not have a definition for an Inflatable spa. Recommendation: Add Inflatable spa definition to APSP-14.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes to the regulations. The Energy Commission did define the term “inflatable spa” to distinguish it from the other types of portable electric spas and to implement the new performance standard for inflatable spas.

- g. Definition of portable electric spa. Why is “or sold separately for subsequent attachment” added to the definition. This is confusing and suggests that a factory built spa can be sold in interchangeable pieces that can compromise the safety and energy efficiency of the spa. The unit should be sold as a package and

tested as a package. Recommendation: Remove “or sold separately for subsequent attachment” from the definition.

Energy Commission Response: This request was not implemented because the amendment ensures portable electric spas with detachable heating and circulating equipment are a covered product. This amendment is necessary to implement the new performance standard for inflatable spas, where the heating and circulating equipment may be sold separately from the remainder of the spa. See response to comment 11(g) for additional details.

- h. Standard spa – Not well defined – and not needed definition. Recommendation: Remove “Standard Spa” definition and reference in Combination spa definition. The definition of “Spa” covers standard spa and the definition of all of the other sub classes of spa eliminate the need to define spa twice. Where Standard Spa is used in the combination spa definition it is understood that it is referring to the hydromassage portion of the spa which can be maintained at 104F. Update the definition to indicate “the second reservoir is a spa for hydromassage”.

Energy Commission Response: This request was not implemented because defining “standard spa” is necessary to implement the proposed regulations and to provide clarity within the regulations. The regulations apply different standards for “standard spas,” “exercise spas,” “combination spas,” and “inflatable spas” such that defining only “spa” alone would create confusion about which efficiency standard and testing requirement applies.

- i. Standard spa portion – definition not required. Recommendation: Remove the “Standard Spa Portion” definition as it does not need to be defined. Referring to it in the language as “Spa Portion” in reference to the combo spa is clear. The “standard spa portion” is necessary to distinguish the two reservoirs in a combination spa from each other, as the testing is different to reflect the two different uses of these reservoirs. Since all spas are spas, referring only to the “spa portion” would not be sufficiently clear.

Energy Commission Response: This request was not implemented because defining “standard spa portion” separately is necessary to implement the proposed regulations and to provide clarity within the regulations.

- j. The new language is capping a spa size to 1145 gallons based on the new formula and the energy label design. This is potentially limiting the size of spa that can be sold in California.

Energy Commission Response: This recommendation was implemented in 15-day language. The Energy Commission deleted the statement indicating the spa sizes applicable to the maximum power range values as part of the label requirement to ensure the label does not restrict large compliant spas from using the label.

- k. Standby mode definition is summarized. Recommendation: Use full definition in APSP-14.

Energy Commission Response: The definition as referenced in APSP-14 for “standby mode” states “All settings at default as shipped by the manufacturer, except water temperature, which may be adjusted to meet the test conditions. No manual operations are enabled” and the definition the Energy Commission proposed for “standby mode” states “standby mode of a portable electric spa means that only the default settings as shipped by the manufacturer are enabled, except water temperature, which may be adjusted to meet the test conditions. No manual operations are enabled.” The Energy Commission definition deviates from APSP-14 only slightly (underlined words illustrate where the differences are). The addition of “are enabled” in the proposed definition ensures user input is not required to program the controls to a particular setting or mode and to ensure the testing conditions can be replicated to verify compliance.

- l. We understand logging the test spa SN on the test report. But why submit to CEC?

Energy Commission Response: The Energy Commission is not requesting to collect the serial number (SN) as a data submittal requirement to the appliance efficiency database. The SN is required to be included in the test lab report as part of this proposal and the Energy Commission may request a test lab report for covered appliances at any time pursuant to Title 20 section 1608(c) to verify compliance.

- m. Reference to 8.2 is incorrect. Recommendation: Refer to section 6.3.

Energy Commission Response: This recommendation was not implemented because it is not applicable. The proposed regulation references ANSI/APSP/ICC-14 2014 (APSP-14) as the test method, excluding section 8.2 and with modifications.

Section 8.2 states a performance requirement for exercise spas of $P = 5xV^{2/3}$ (where P = maximum allowable standby power and V = fill volume). The proposed standard sets a performance requirement of $P = 3.75xV^{2/3} + 40$ (where P = maximum allowable standby power and V = fill volume) for standard, exercise, and combination spas. The Energy Commission intentionally excluded section 8.2 to clarify the performance requirement for exercise spas set in APSP-14 cannot be used to determine maximum allowable standby power.

Section 6.3 states the equation for calculating the normalized standby power for exercise spas. Section 6.3 cannot be excluded because it is required to normalize the measured standby power and to determine whether the spa meets the performance requirement.

- n. Add to APSP-14 with rewording to ensure proper testing.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes to the regulations.

- o. Listing multiple covers and the worst data on the label does not give the customer the information needed to purchase the most energy efficient option. Recommendation: Allow the energy label to list all tested covers and energy use for each or allow the manufacturer to use a separate label for each approved cover and test data to prompt the customer to ask for the most efficient option.

Energy Commission Response: The Energy Commission agreed to allow manufacturers to list additional spa covers other than the spa cover coinciding with the performance data on the label. This change promotes and informs consumers of more efficient options. The Energy Commission did not implement the request to list the energy use of each additional spa cover on the label or to have a separate label for each spa cover-unit combination because these options would increase labeling costs and creates a more burdensome way to update the label. A uniform label, as opposed to having a label for each spa cover-unit combination, prevents the risk of labeling a spa cover –unit combination with a label corresponding to a different spa cover-unit combination, misleading the consumer. The Energy Commission did add language to the label directing consumers to California’s appliance efficiency database to view the energy use of each spa cover-unit combination. In addition, the California appliance efficiency regulations do not restrict manufacturers from using other labels or marketing materials to display the energy use of each spa cover-unit combination.

- p. Question: When reporting spas, can we report a single spa multiple times with every cover combo? Are we supposed to register every combination on the database?

Energy Commission Response: All tested spa covers that allowed the unit to pass the standby power test must be certified to the appliance efficiency database as separate listings to sell or offer for sale in California. This supports the requirement in Title 20 Section 1608(a) that any covered appliance may be sold or offered for sale in California only if “the unit has the same components, design characteristics, and all other features that affect energy or water consumption or energy or water efficiency, as applicable, as the units that were tested under Sections 1603 and 1604 and for which information was submitted under Section 1606(a).” Spa covers that have identical Energy Commission data but different model numbers due to features unrelated to energy use (such as colors) can be certified with a single listing by using asterisks in the model number to represent characters that change as stated in section 1606(a)(1)(C).

- q. Label language question: What is the rationale to add user capacity to the label? This is part of the POS literature and a selling feature separately. Number of seats does not impact the efficiency of the spa, but because it would be on the label, would imply to the user that number of seats has some impact on energy. It

is not relevant to have consumers trying to compare number of seats to energy use amongst competitors.

Energy Commission Response: The user capacity allows the consumer to visualize the size of the spa and allows the consumer to easily compare spa sizes and efficiencies to choose a spa that meets their needs.

2. Chad Worth, Energy Solutions on behalf of the California Investor Owned Utilities (IOUs), Comments regarding Final Staff Report and 45-Day Language on: Portable Electric Spas, March 19, 2018

- a. The CA IOUs are broadly supportive of the Energy Commission final staff report and 45-Day Language for portable electric spas. The CA IOUs would especially like to commend the Energy Commission for working with manufacturers to develop a new, aggressive, but achievable efficiency standard level for inflatable portable electric spas. Collectively, the proposed standards are cost-effective and achievable, and will lead to significant energy savings throughout California, at roughly 242 gigawatt hours per year after stock turnover.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- b. The CA IOUs commend the Energy Commission staff for their thoughtful and thorough proposal; and to improve the portable electric spas final staff report and 45-Day Language, the CA IOUs recommend that the Energy Commission consider the following modifications.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- c. To realize the energy savings of the proposed label for portable electric spas, the CA IOUs recommend the Energy Commission consider adding language to ensure the visibility of the label to customers. Specifically, for Standard, Exercise, and Combination spas, we recommend further direction to manufacturers be provided regarding the location of the label. The current language states that the label shall only be “marked by the manufacturer in a readily visible location on the shell or front skirt panel.” We encourage the Energy Commission to modify the language to require the label be only placed on the shell of the spa, not the skirt of the spa. As shown below in Figure 1, spas on showroom floors are often crowded with most sides (skirts) of the spa being adjoined with another spa, or positioned near a wall. Requiring the label be on the shell ensures the label will be visible regardless of showroom floor display arrangement

Energy Commission Response: This request was not implemented because specifying the exact location of where the label shall be placed reduces placement options for manufacturers and may restrict manufacturers from displaying spas to their liking. To address IOUs’ concern to ensure the consumer sees the label, the following language was implemented in 15-day language (additions appear as underlined): “The label shall be legible, conspicuously

displayed to the consumer, and be removed only by the consumer.” A label that is not clearly visible to the consumer will violate the label requirement.

- d. The CA IOUs also encourage additional language to require the top of the label be no more than six inches from the top of the spa, and be vertically oriented. We believe providing high-level guidance regarding label location will ensure the labels are uniformly placed across products from different manufacturers, and always remain in a readable orientation and location for customers

Energy Commission Response: This request was not implemented. See response to comment 2(c) for details.

- e. For inflatable, portable electric spas, the CA IOUs recommend the Energy Commission require the label to be placed on the box, instead of the shell, as these units are sold collapsed (in boxes as shown in Figure 2) and inflated on-site. Currently, the recommended language that places the label on the shell of the spa portable electric spas will prevent the label from achieving its desired effect of being visible by the customer at the time of sale.

Energy Commission Response: This recommended change was implemented in 15-day language. This change is necessary because inflatable spas are typically sold in packaging, so the manufacturer must label the package (not the spa inside) to ensure the consumer is able to see the label before purchasing the unit.

- f. The CA IOUs encourage the Energy Commission to change the reference on the label from “USG” to “US Gal” for better clarity and readability to customers.

Energy Commission Response: This recommended change was implemented in 15-day language. The units on the label was modified to state “US Gal” to ensure consumers understand the volume is measured in US gallons. This change addresses California IOUs’ concerns.

- g. The CA IOUs recommend the Energy Commission allow multiple spa covers (which comply with the standard) to be listed on each label. The standby power draw displayed on the label should reflect the spa and cover combination with the highest energy usage. This cover should be marked or highlighted (e.g., check-box) on the label to indicate to customers which spa cover aligns with the label’s indicated energy use.

Energy Commission Response: This recommendation was implemented in 15-day language. See response to comment 1(o) for additional details.

- h. The Energy Commission’s proposal requires the reporting of minimum and maximum water temperature settings in the test report. The CA IOUs believe this information is useful and encourage the Energy Commission to further add these data fields to Table X so that it can be reported publicly.

Energy Commission Response: This request was not implemented in Table X because asking manufacturers a true-false question on whether the exercise spa has a maximum temperature setting that is less than 100°F is sufficient to identify exercise spas that need to follow the applicable conditional test procedure. Using a true-false question reduces the certification burden on manufacturers. Implementing this recommendation for example, will require manufacturers of combination spas to submit the minimum and maximum water temperature settings for each spa portion, which totals to four values to submit. Whereas the true-false question previously stated, requires one answer. For consumers, this information is readily available through the product owner's manual and/or in marketing material. Thus, collecting this information is not vital. Collecting this information in the test lab report is less burdensome and allows the Energy Commission to verify compliance.

3. Alexandria McBride, Information Technology Industry (ITI), March 19, 2018

- a. Harmonized standards are the most productive approach in reaching goals to reduce carbon emissions, and we support the CEC's effort to align California's battery charger requirements with the U.S. Department of Energy (DOE) Battery Chargers Energy Conservation Standard Final Rule. The DOE concluded that battery charger marking requirements were "redundant and an unnecessary burden to manufacturers", and we strongly support the CEC's recommendation to align with the DOE and remove California's marking requirement for federally-regulated battery chargers.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- b. Furthermore, considering that sales channels for state-regulated products differ significantly from sales channels for consumer products, we question the value and associated benefit in maintaining the "BC" marking requirement for state-regulated battery chargers. State-regulated products are typically professional products. These products are, in most cases, shipped directly from the supplier to the institution that procures such products. It is unknown to industry, at what point in the sales chain, the "BC" mark would provide the instrumental information to determine compliance since CEC's access to such products is non-existent without special arrangements.

Energy Commission Response: Maintaining the marking requirement for state-regulated battery charger systems will continue to aid compliance and enforcement efforts, and entities purchasing and testing these products by determining at a glance whether these products comply with the applicable California standards. Therefore, the Energy Commission is retaining the marking requirement for state-regulated battery charger systems.

- c. We also urge the CEC to streamline the Modernized Appliance Efficiency Database System (MAEDBS) certification process for federally regulated battery chargers. On June 13, 2018, the Department of Energy (DOE) efficiency

standards for battery charger systems takes effect, and it will be a violation of federal law to sell products in the US if they are not certified into DOE's Compliance Certification Management System (CMS) database. The additional MAEDBS reporting requirement would be duplicative and a significant burden to the industry. Since the DOE expressed interest in working with the CEC to reduce duplicative reporting, we strongly support collaboration between the two agencies on this issue.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes specific to this rulemaking, but instead to portions of the regulations outside the scope of this rulemaking. The Energy Commission is addressing these issues as part of Docket #18-AAER-10.

4. Kevin Messner, Association of Home Appliance Manufacturers (AHAM) and Doug Johnson, Consumer Technology Association (CTA), docketed March 19, 2018

- a. The Association of Home Appliance Manufacturers (AHAM) and the Consumer Technology Association (CTA) would like to comment on the Portable Electric Spas and Battery Charger Systems Appliance Efficiency Rulemaking (Docket 18-AAER-02). We represent companies that manufacturer battery chargers and products which use them, and we support the rulemaking's purpose to modify existing marking requirements in the appliance efficiency regulations for battery chargers.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- b. We support CEC's efforts to align California's marking requirement for battery chargers with federal regulations, which do not include a marking requirement. This action would facilitate common requirements across the US, which will reduce consumer and market confusion and improve the effectiveness of minimum energy efficiency standards. We agree with CEC's assessment that if the California "BC" marking on products were to be left unaddressed, manufacturers would either have to make a product specifically marked for sale in California, or all products sold nationwide would have to have a mark, even though the requirement only applies in California. This would also add unnecessary product development costs. The proposed regulations appropriately addresses this problem by removing the marking requirement for federally regulated battery chargers.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

5. E. Jess Tudor, Coverplay, Inc., March 15, 2018

- a. As the invited member of the rule making committee for portable spas I want to say I found it a pleasure to collaborate with Gary Fernstrom, Chad Worth, Ben Fischel, Betty Chrisman and others going back to include Michael Martin in 2008. I advised Emerging Technologies, Pacific Gas and Electric and the California Energy Commission of testing data produced during that decade. As an inventor,

I am dedicated to improving energy efficiency including that of the portable spa, an appliance carelessly paired with Styrofoam/PVC spa covers. During that period I reported most of the energy lost was from the gap between the spa and the hard foam board cover obscured by a vinyl flap and from convection loss at its dual hinged gap. Subsequent ambient testing revealed water permeation from interstitial gaps in the foam compounding the inefficiency of Styrofoam as an insulator for heated and sanitized outdoor spas. A review of the Cal Poly University spa energy report for P.G. & E. in 2008 provides evidence questioning the efficacy of dual hinged spa covers as 65% of new spas tested with them did not comply with CEC standards for sale in CA. Adding full length gussets to the dual hinge area in response to that report does little to improve them, as, “Lipstick on a pig”. A more relevant ambient test to include evaporation was conducted in 2010 as spas are typically outdoors. Using instruments authorized by Gary Fernstrom from the Tool Lending Library in California, we electronically recorded all aspects of that winter test and submitted those discs with my written report and findings to P.G.& E. in April of that year.

Energy Commission Response: Thank you for your comment. The final staff report published by the Energy Commission discusses the use of dual-hinge covers and presents single-hinge design as an option to reduce heat loss (See page 37 in Lopez, Jessica. 2018. *Analysis of Efficiency Standards and Marking for Spas*. California Energy Commission, CEC-400-2018-002.). The proposed standards are performance standards and do not require the use of any specific material or set design parameters to improve the efficiency of the product. This comment does not request changes.

- b. Spa owners complain of water heavy, smelly spa covers and some have replaced their foam covers 5 or 6 times in 15 to 20 years as they become unmanageable, others leave them on the spa to collapse. Spa dealers and spa cover retailers acknowledge the failure but blame the consumer for physical damage or spa chemical imbalance. Damage can play some part but the universal problem with EPS foam is water saturation from condensation. Covers can be as heavy with water as to require two fit adults to open just half their spa. Water is a great conductor of heat; this silent energy thief can use 2 to 3 times more energy on stand-by power and renders the cover the bane of the spa appliance. Spa cover retailers visit local landfills monthly with trailers of water soaked spa covers. A photograph of this polluting devastation from this misuse of EPS foam is included in my reports as the average spa cover represents 3520 Styrofoam cups...none of it recyclable.

Energy Commission Response: Thank you for your comment. Consumers are recommended by manufacturers to follow maintenance and operation instructions to prevent failures and to get full use of the product up to the life of the product. The proposed standards are performance standards and do not require the use of any specific material or set design parameters to improve the efficiency of the product. This comment does not request changes.

- c. Manufacturers offer up to a 10 year warranty on their spas yet this proposed ruling allows them to avoid compliance after the date of sale just as their foam spa covers begin to fail. Styrene foam and PVC vinyl are considered incompatible with strong oxidizers by Material Safety Data Sheets yet are provided with the spa by the manufacturer. They degrade and fill with water from condensation the first month converting a once dry insulating cover into a wet energy conductor making claimed CEC energy ratings untrue.

Energy Commission Response: Thank you for your comment. See response to comment 5(b) and 5(f) for additional details. This comment does not request changes.

- d. Consumers guided by the CEC logo energy label but paying higher than claimed energy costs would be misled and poorly served by this Commission's current proposal. As more water heavy, styrene/vinyl covers are discarded to CA landfills, future generations will become more affected by the ever increasing volume of this cycle of unimpeded pollution. EPS foam board is resistant to photolysis (500 years) and can eventually end up in the ocean when broken into pieces as many are. Avian and aquatic lives are constantly at risk with the beads from that careless behavior as the supervisors of San Francisco know all too well. It seems discarded Styrofoam from other cities like Sacramento finds a path to their, "Bay Area" despite their 2016 ban.

Energy Commission Response: Thank you for your comment. The proposed label provides the consumer an estimate of the energy use and potential costs. The proposed label notes the performance data displayed on the label is based on testing conditions to not mislead the consumer. Because the efficiency standards are performance standards, the Energy Commission does not mandate that a particular material be used to achieve the required efficiency. See response to comment 5(b) and 5(f) for additional details. This comment does not request changes.

- e. California's Proposition 65 was created to protect citizens from being exposed to chemicals without their knowledge or an understanding of their lethality by proper labeling. PVC has been on that list since 1987 as a carcinogen and styrene was added in April 2016. Ironically these two chemicals are incompatible with each other by MSDS warnings yet coexist in industry spa covers exposing the very citizens seeking health and wellness from hydrotherapy to dangerous VOC's. It occurs to us the California DEQ should have an interest in these spa covers not properly labeled for consumers to consider before purchase. The Frank Lautenberg Chemical Safety Act of 2016 has the EPA listing two of the top ten most dangerous chemicals to include asbestos and HBCD, a Persistent, Bio-accumulative Toxin banned in 152 countries but still used here in America in EPS/XPS styrene foam board. Some people remember asbestos when it too was used as an insulator! Providing a safer, sustainable alternative to Styrofoam has the interest of citizens in at least 62 California cities and government facilities including the city and county of San Francisco that voted to ban all Styrofoam in 2016.

Energy Commission Response: Thank you for your comment. This comment does not request changes. See response to comment 5(f) for additional details.

- f. This appeal to the CEC before its final ruling is intended to help CA citizens avoid ever increasing spa energy costs for stand-by ready power and health consequences associated with toxic chemicals in Styrofoam/PVC vinyl spa covers. We should all be wary when important energy/health information encounters ambivalence or resistance from anyone or group when public welfare is at stake. Evidence exposing the disastrous choice of Styrene foam/ PVC vinyl to insulate sanitized hot water spas is obvious and compelling especially when millions of those covers are already in landfills for 2000 years. To allow this to continue unabated defies logic when safer, more efficient alternatives are available. This Commission could improve spa energy use simply by discouraging the continued use of dual hinged covers. Suggestions from this member of the rule making committee have been outlined and submitted in 2016, derived from years of data to better protect California citizens and their energy resources. If this legislative body is indifferent to these solutions, then at least establish a, "Health tariff" (\$150 per cover) to provide proper disposal of imported Styrofoam/PVC vinyl covers and interrupt 35+ years of sustained pollution. The CEC should then mandate all Styrene/PVC vinyl spa covers be labeled, "Toxic, Carcinogenic" to forewarn the unsuspecting public, particularly the vulnerable young, pregnant women and those with compromised immune systems. Consumers should also be made aware of the non-recyclable nature of used spa covers.

Energy Commission Response: Thank you for your comment. This request was not implemented because it is outside the scope of the proposed rulemaking. The Energy Commission has the authority to set minimum efficiency levels on appliances that use significant amount of energy pursuant to the Warren Alquist Act- section 25402(c)(1). For this purpose, the proposed standards are performance standards and do not require the use of any specific material or set design parameters to improve the efficiency of the product.

Comments Received at the March 6, 2018 Lead Commissioner Meeting

6. Jason Sin

Not sure what the difference is between state regulated and federally regulated [battery chargers] are?

Energy Commission Response: If a device meets the federal definition of a battery charger and has a federal efficiency standard for that battery charger, then it is considered a federally regulated battery charger. If the device is not covered under the federal standards, then it may still be covered under state standards for battery charger systems, based on whether the product meets the definition of a battery charger system in Title 20, section 1602(w). If the device meets neither set of definitions, then it is not a covered appliance and certification is not required.

7. Unknown Commenter /Chat Box Question,

Where is the new energy label template located?

Energy Commission Response: The proposed label is available in the Notice of Availability of 15-day language document (Docket# 18-AAER-02) and will be available in the California Code of Regulations when published by the Secretary of State (California Code of Regulations, Title 20, Section 1607).

8. David Maciel, Sony Electronics

My questions is to what degree has the BC mark been instrumental for the Commission to demonstrate compliance or to verify compliance, so that the Commission feels that the BC mark must remain for state regulated battery charging systems?

Energy Commission Response: The mark has been instrumental with the Energy Commission's compliance and enforcement efforts, and has provided a quick way of checking whether a battery charger product complies with California's battery charger systems standards.

9. Charles Kim on behalf of the California IOUs

Thank you. I'm Charles Kim. Thank you, Commissioner. I'm Charles Kim of the Southern California Edison Company. I'm speaking on behalf of the California investor owned utilities (IOUs) today. [Kim discussed the history of the IOUs participation in this rulemaking that began in 2012, expressed manufacturers had ample time to understand the Energy Commission's proposal, commended the Energy Commission's work on this proposal, and described the savings that will result from this proposal.] So what I want to say here is that I stand here and support what is proposed broadly. And I wanted to take a moment to say thank you for staff for this long journey, but necessary journey, because you pay attention to details and not to mention that you listen to all the comments, incorporate those comments, update the definitions, and would reach this far. So I'm incredibly thankful for all your efforts.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

10. Chad Worth on behalf of the California IOUs

- a. Like has been mentioned before, the IOUs have been very involved in the development of portable electric spa standards from the original standard that took effect in 2006, to being engaged with some of the testing that followed, up until the point of working with CEC to begin a new rulemaking to update the standard years later. This has been said before. We've been through many staff meetings. I'll just point out at a high level this measure started out as just a labeling initiative. And CEC asked, looking at the data, "Hey, why don't we look at updating the standard level as well?" We took that, as the IOU team and reached out to our colleagues with the Association of Pool and Spa Professionals-14 Committee, which does their hot tub and spa work and engaged them in negotiation in 2014. That ultimately led to most of the proposal that we see here

today. We've appreciated that collaboration with the APSP-14 Committee and working with CEC staff at all the workshops since.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- b. Like Charles mentioned the IOUs broadly support this proposal. It's going to deliver a cost effective, achievable and significant statewide energy savings on the order of 242 gigawatt hours, after stock turnover. I believe the June 1st, 2019 date is very reasonable.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- c. And really there's four main changes that this staff report and 45-day language makes. It clarifies the definition scope of portable electric spas. It provides an updated standard, specifically new is the inflatable spas. There's the label, which is a really innovative and key part of this effort. And then there's some new reporting requirements I'll go into more details on.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- d. As has been mentioned, the definitions for spas needed updating. I think when the first spa standard was passed inflatable spas weren't really a thing, or at least most of us had not heard of them. And so there's been some needing some updating to a definitions and I commend CEC staff on their framework they've developed for definitions. And I think we've done a good job encapsulating all that is out there in the market appropriately.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- e. The standby standard for traditional spas or standard spas, more than 75 percent of the models in the CEC database will meet this standard. I believe it will yield a roughly shipment-weighted savings of about 8 percent per spa, if I remember correctly. I think this is very reasonable in a strong but modest update to the existing standard.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- f. The inflatable spa standard level, the IOUs understand the utility provide by these spas, especially those that may not be able to afford a larger, standard spa. And certainly commend CEC for taking the leadership and working with industry. And also, the industry partners have been, I know, thinking and working and pushing hard on how to get the standby demand for these spas down. And I think they did reasonable job of that in creating an achievable but a stretch level for these spas to achieve.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- g. As mentioned, the label is a key part of this overall rulemaking. This is broadly the consensus label that we worked with the APSP-14 Committee on. We still support it. I have a few slight modifications and suggestions I'll get to in the next slide. As far as the suggestion for improvement to the label these are very minor things, but when we get to the 45-day language we really start going through with a fine tooth comb. One suggestion would be to spell out U.S. gallon somewhere on the label. USG is not perhaps apparent to all consumers if it's a consumer facing label, a very minor issue.

Energy Commission Response: This recommendation was implemented in 15-day language. See response to comment 2(f) for details.

- h. And this, I think relates to some of the other comments that industry has regarding the tested cover manufacturer and model. Right now, in the staff report it's plural as we understand. The standard, the label will reflect the cover manufacturer and the model number for the spa cover combination that uses the most energy or is least efficient. So listing multiple manufacturers and multiple models of covers is not applicable under the current standards framework.

Energy Commission Response: This request was not implemented because the 45-day language was modified to allow manufacturers to list additional tested and certified spa covers on the label. This recommendation no longer applies based on the modified changes. See response to comment 1(o) for additional details.

- i. For the standard exercise and combination spas, we'd like to see the label actually on the shell of the spa, perhaps vertically oriented six inches from the top, not on the skirt. And I put a picture up here just to show often spas on showroom floors get very compact. As someone who used to work on a spa showroom floor we try to squeeze as many in as possible. And putting the label on the spa skirt is very -- there's a good perhaps a three in four chance that it's either facing a wall or another spa and may not be visible. Putting it on the shell six inches from the top, I think, would ensure the intent of the label.

Energy Commission Response: This request was not implemented. See response to comment 2(c) for details.

- j. And finally, for inflatable spas they come in a box. Putting it on the shell is likely not to influence any consumer purchasing. We'd like to see if there's a way to require that to be on the box. So if either the consumer is shopping at a Walmart or Target, they can see it there before putting it on their cart or online. At least it would be somewhat visible on the box and encourage more efficient inflatable spas.

Energy Commission Response: This recommendation was implemented in 15-day language. See response to comment 2(e) for details.

- k. As far as the reporting requirements, not a whole lot has changed. I do want to commend CEC for clarifying and reporting both the fill volume and the rated volume. I think that's useful information to have when looking through the data set.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- l. And I suggest adding because they're going to be collected, if it's not too much additional work anyways, to report the minimum and maximum water temperature to Table X, as well as they're already proposed to be collected in the report. It would just provide another data point for consumers and those of us that look through that data on a regular basis.

Energy Commission Response: This request was not implemented. See response to comment 2(h) for details.

11. Mike McCague on behalf of APSP

- a. Okay. Let's go to the beginning of the comments. While that's being found, I am representing the International Hot Tub Association today as well as APSP-14, the Standard Rating Committee. We should also have Angelo Pugliese on the phone, who is the Chairman of the APSP-14 if additional questions come up. I want to take just a quick second to thank the CEC for an invitation to comment on the language. We've been working with the group, as Chad pointed out, for quite a long time. And it looks like we're near the end of this update, which is very good.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- b. So we have a few comments from the latest language and I think more editorial in regards to how this is all coming together. But one thing we noticed as we reviewed this is in the first Comment 1, that the intent is to adopt the APSP-14 Standard nearly as a whole. And we found that the number of definitions are new, which can be added to APSP-14 or they were altered from APSP-14 and we felt that there might be some confusion if you're reviewing the CEC definitions versus the APSP-14 definitions as you go through this. And we're hoping to harmonize the definitions where at all possible. So that would be Comment 1 is basically just interpret -- you know, taking these APSP-14 definitions as they are.

Energy Commission Response: This request was not implemented. See response to comment 1(b) for details.

- c. Comment 2, if you can then just stroll down? So Comment 2 is the combination spa. We recognized that that has not been formally defined in the APSP-14 and we will make an effort. And again, we'll get with the committee offline here and add this language to the APSP-14 Standard. The recommended language that we have, which I believe is different than what is proposed by the CEC is:
"Combination Spa: Variant of a spa and swim spa consisting of the combination

of two separate basins with independent water temperature controls. One side is dedicated for exercising at a lower water temperature and the other for elevated temperature soaking/hydrotherapy massage." And that will basically cover both sides and I will cover part of the other rationale in a moment here.

Energy Commission Response: This request was not implemented. See response to comment 1(c) for details.

- d. Comment 3 was the exercise spa, it is only an abbreviation in the CEC language and we do recommend adopting the full APSP-14 definition or referencing it in some manner.

Energy Commission Response: This request was not implemented. See response to comment 1(d) for details.

- e. Comment 4 is the exercise spa portion. We feel that that's not necessarily needed, given that we have a definition of an exercise spa is and what a combination spa is. That there's a section for swimming and a section for hydrotherapy at a higher temperature and we feel that adding this is unnecessary.

Energy Commission Response: This request was not implemented. See response to comment 1(e) for details.

- f. Comment 5, APSP does not have a definition of the inflatable spa. We will be working -- we have been working actually with the inflatable group for the past two years and also will look at adding this information to the standard, hopefully this year depending on what the schedule is.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes to the regulations. See response to comment 1(f) for additional details.

- g. Comment 6 is the definition of the portable electric spa. We had a question, which can be followed up later, but it was noted that as part of the definition the equipment could be sold separately for subsequent attachment. And we felt that was confusing, which would suggest that you can buy kit spas with multiple different pieces and then put them together. And that kind of defeats the purpose of having a factory built portable electric spa, whether it be a swim spa, a conventional portable hot tub or even the inflatable. These need to be complete kits at the time of purchase, so that the data can be proper and they can be tested as complete units. And so we don't understand the need for that additional language in there, because it adds confusion.

Energy Commission Response: Factory-built portable electric spas include all the necessary equipment to function as a hot tub. Some portable electric spas, however, are constructed to be assembled such as inflatable spas and spas that can be taken apart for easy storage. The Energy Commission agrees that all portable electric spas need to be complete with all the necessary equipment to

ensure they can be tested. The current portable electric spa definition covers units that are supplied with heating and circulating equipment at the time of purchase. Units that can be disassembled may be packaged incomplete at the time of purchase to bypass the regulations. The modification to the portable electric spa definition ensures units that can be disassembled are covered whether these units are sold complete at the time of purchase or later.

- h. Comment 7, a standard spa not well defined. We don't believe that's needed. I understand what the intent was with all of what the CEC has proposed, but adding the term "standard spa" now suggests that there's something different than the spa. And so when we consider spa as being, I think as Chad had in his definition matrix there of the different spa types, spa being a hot body of water. And then of those there are subsets: exercise spas, combination spas, inflatable, we don't feel that it's necessary to have the standardized spa definition. Especially because it's really only used in relation to the combination spa definition, which can be adjusted.

Energy Commission Response: This request was not implemented. See response to comment 1(h) for details.

- i. Comment 8 was the standard spa portion. Again, that is affiliated with the standard spa. It's taken that this is the hydromassage section, the high temperatures section of the combination spa. And again, we don't believe the definition is required.

Energy Commission Response: This request was not implemented. See response to comment 1(i) for details.

- j. Comment 9, new language is capping. This is something we found interesting, to maybe be discussed at another point. But when we originally created the labels for the portable electric hot tubs and spas we kind of arbitrarily set a maximum volume, maximum energy for the exercise spas and then an energy level for the portable electric spas. And when that calculates out under the new formulas we now have caps on the volume of water. And we're a little concerned, the industry is, that that's potentially eliminating large regular hot tubs from the portable electric spa label. If you have a hot tub that's over 2,000 or 1,200 gallons, which is conceivable to have a very large unit, where does that now lie? And so that's something that I think we need to look at.

Energy Commission Response: This recommendation was implemented in 15-day language. See response to comment 1(j) for details.

- k. Comment 10 standby mode definition, to summarize again we'd recommend using the APSP-14 definition in full.

Energy Commission Response: This request was not implemented. See response to comment 1(k) for details.

- l. A quick comment on the test methods, the – we understand in terms of noting the serial number in the test reports, but are we -- it looks like the serial number is also required to be submitted to CEC as part of the data submission. We're just curious for the need on that. Obviously it's for tracking, but is it really necessary?

Energy Commission Response: See response to comment 1(l) for details.

- m. There is a reference in the standard to Section 8.2 in the language. And I believe we've had this discussion in the past that that is not the correct reference. It should be 6.3 for the test, actually that is the swim spa energy limit calculations.

Energy Commission Response: This request was not implemented. See response to comment 1(m) for details.

- n. Comment 13, what was that? So that was just simply to add this section to APSP-14 with the proper wording to ensure that we attach into this correctly.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes to the regulations.

- o. We had a couple of quick questions and comments on the marking of the products specifically to the multiple cover scenario. And we understand, I think the way that it's currently written at least in APSP-14 is if there's multiple covers you would then list all those covers and those manufacturers. And then list the highest energy consumed, worst case on the label. But we're finding that if there's not enough room a) to put all those different covers and the manufacturers and; 2) we're missing an opportunity to advertise different energy options. If we're only putting the worst cover on there we couldn't -- we're missing the opportunity to then show that well if there's more efficient covers on there and you can save X amount of energy per year. So we're wondering, thinking about doing either the ability to add the multiple energies for these different covers on the one label. Or maybe simpler is having multiple labels on the spa reflecting the different cover options. This way it's easy to see that okay if I'm buying it with this cover it's 200 watts. If I buy it with this more energy efficiency cover it's 150 watts. And that gives a better visual to the consumer and they can make a better efficiency choice.

Energy Commission Response: See response to comment 1(o) for details.

- p. Comment 15, let's see we're almost done here I believe. Oh, there was a question then I guess we can think of stuff afterwards on reporting every single combination of cover and spa in the database. I'm just checking to see if that's the intent or if we're only registering the spa and the worst case cover when we're registering these products

Energy Commission Response: See response to comment 1(p) for details.

- q. And the last question was just a commentary in regards to the addition of the user capacity to the label, this being the number of occupants that the spa will hold. We're just questioning the need to have that on there as this is pretty much

common language used in all these point of purchase and point of sale literature. And if this is a necessary item to add to a small thing it's not going to be easy to see, and we're just questioning the need to add that on the label itself.

Energy Commission Response: See response to comment 1(q) for details.

12. Matthew Vartola on behalf of Bestway

Yes, this is Matthew Vartola. I'm representing Bestway, a manufacturer and distributor of inflatable spas. I just wanted to take this opportunity to thank the Commission, specifically with Ms. Lopez in her cooperation and willingness to work with us to develop a standard that is quite fair and reasonable for the industry. So thank you.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

13. Jennifer Hatfield on behalf of APSP

Thank you. This is Jennifer Hatfield. I'm the Government Affairs Director for the Association of Pool and Spa Professionals. And I just want to take a moment to thank you on behalf of all our membership, you know, specifically today the portable spa and inflatable spa manufacturers for working with us. And we look forward to continuing to work with you all on this rule, but thank you so much.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

14. Chad Worth, Energy Solutions on behalf of California IOUs, Portable Electric Spas Power Point, March 6, 2018

- a. IOUs support the CEC staff proposal and believe the proposed standards are cost-effective, achievable and will lead to significant savings statewide.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- b. IOUs support the June 1, 2019 effective date.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- c. IOUs support CEC's modified definitions and new scope clarification to ensure coverage of standard, exercise, combination and inflatable spas.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- d. IOUs support CEC's adoption of the APSP-14-2014 maximum allowable standby standard, with modifications for exercise/combination spas.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- e. IOUs understand the utility provided by inflatable spas and commend CEC and manufacturers for working to find an achievable level.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- f. IOUs broadly support this label design and concept as it will provide valuable information to consumers.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- g. Consider spelling out “USG” to US Gallons

Energy Commission Response: This recommendation was implemented in 15-day language. See response to comment 2(f) for details.

- h. Remove references to plural (s) spa covers

Energy Commission Response: This request was not implemented. See response to comment 10(h) for details.

- i. For standard, exercise, and combination spas, require label on the shell, 6 inches from top, not on the “skirt”

Energy Commission Response: This request was not implemented. See response to comment 2(c) for details.

- j. Require label on the box for inflatable spas

Energy Commission Response: This recommendation was implemented in 15-day language. See response to comment 2(e) for details.

- k. IOUs commend CEC on adding new definitions and reporting requirements such as “fill volume” and “rated volume”

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- l. Suggest consider adding minimum and maximum water temperature settings to Table X, as they are already proposed to be collected in the test report.

Energy Commission Response: This request was not implemented. See response to comment 2(h) for details.

Written Comments Received During the 15-Day Comment Period

15. Chad Worth, Energy Solutions on behalf of California IOUs, Comments regarding 15-Day Language: Portable Electric Spas, April 6, 2018

- a. The CA IOUs are supportive of the Energy Commission final staff report and 15-Day Language for portable electric spas. Collectively, the proposed standards are cost-effective and achievable, and will lead to significant energy savings

throughout California, at roughly 242 gigawatt hours per year after stock turnover.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- b. The CA IOUs commend Energy Commission staff for their thoughtful and thorough proposal, and for incorporating suggestions on the 45-Day Language from the CA IOUs to improve the portable electric spas final 15-Day Language. This includes improvements to the label location and visibility requirements on portable electric spas, and for ensuring that spa covers be marked (with a checkbox) on the energy label to indicate to customers which spa cover aligns with the label's indicated energy use.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

- c. The CA IOUs again commend the Energy Commission on this multi-year long effort, and look forward to working with the Energy Commission to further advance portable electric spa energy efficiency in the future.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

Oral Comments Received at the April 11, 2018 Adoption Hearing

16. Kevin Messner on behalf of AHAM

Thank you. Good morning everyone, I'm Kevin Messner, with the Association of Home Appliance Manufacturers. We support the efforts on battery chargers that's going on today. Thank you. I think this is a good example of CEC thinking it through and finding a good way to deal with all the different things that are going out there, so thank you Commissioner McAllister and everyone here, and Kristen and her team. I don't know if she's here or not but thank you and we support this.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.

17. Charles Kim on behalf of California IOUs

Thank you, Chair, thank you Commissioners. I'm Charles Kim with Southern California Edison company. Today I'm speaking on behalf of California Invest Owned Utilities. This journey for spa energy efficiency rulemaking, it has been a long, very long journey, almost six years from the inception. But I remember many meetings, many workshops and many staff reports revised. So I need to make a statement and my gratitude goes to all the staff members who worked on this report diligently. Now I see the finish line. So I just wanted to point a few staff members: Jessica, thank you so much for working hard and bringing us up to this finish line. And also Leah and Kristen, thanks so much. What we see today, the proposed language is on the California IOU, investor owned utilizes perspective is cost-effective, technically feasible and brings significant energy savings to

California. So the California IOUs fully support what is proposed today. And I want to say once again I'm very grateful to standing here, because I see once again, the finish line after this long journey. So thank you so much. And thanks very much for all the hard work. Thank you.

Energy Commission Response: Thank you for your comment. No change required. This comment does not request changes.