



Title 20 and the New Federal Battery Charger System Test Method

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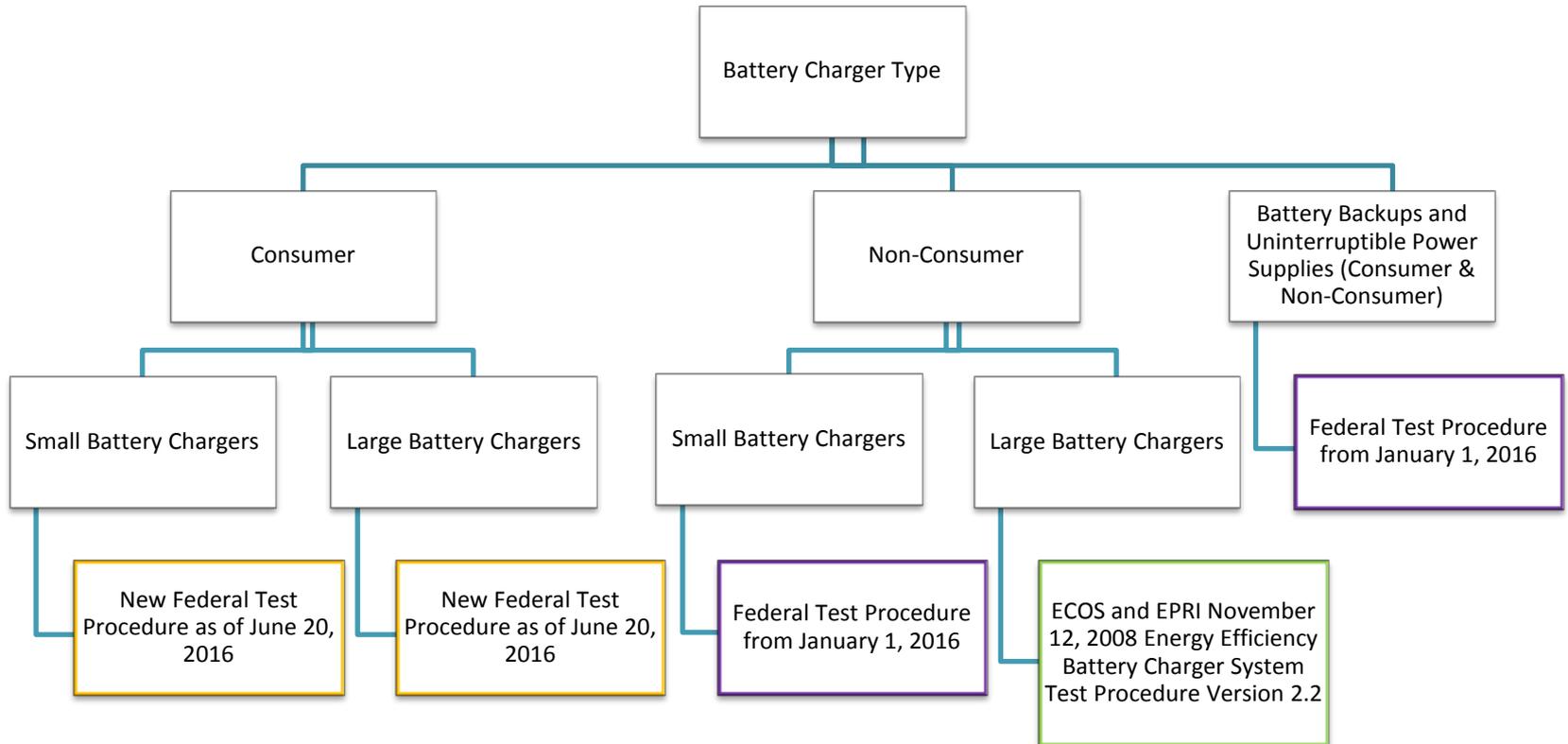


Presentation Overview

- Scope of federal test method (products covered)
- Changes between the old and new test method
- Re-testing and re-certification requirements for products in the Modernized Appliance Efficiency Database System (MAEDBS)
- Q&A



Test Method Decision Chart





Battery Charger Systems

- From California's Title 20 Section 1602(w):
A **Battery Charger System** means “a battery charger coupled with its batteries, or battery chargers coupled with their batteries, which together are referred to as *battery charger systems*.”



Title 20 Appliance Efficiency Regulations

- California regulates small battery charger systems and large battery charger systems, each with their own efficiency standard and test method.
 - **Small battery charger system:** A battery charger system with a rated input power of ≤ 2 kW.
 - **Large battery charger system:** A battery charger system with a rated input power > 2 kW.



Department of Energy (DOE)

- DOE uses the terms “consumer” and “non-consumer” when referring to battery chargers.
- A consumer product:
 - Consumes energy or water
 - Is to a significant extent distributed in commerce for personal use or consumption by individuals
 - Is not an automobile
- Examples of **consumer** products: Electric toothbrushes, notebook computers, mobile phones, cordless power tools, etc.
- Examples of **non-consumer** products: Road vehicles, barcode scanners, forklifts, emergency egress lighting, etc.



Title 20 Appliance Test Method for Small Battery Charger Systems

- Section 1604(w)(1)
 - The test method for small battery charger systems is 10 C.F.R. section 430.23(aa) (Appendix Y to Subpart B of part 430)*

*New federal test method becomes mandatory on November 16, 2016



Title 20 Appliance Test Method for Large Battery Charger Systems

- Section 1604(w)(2)
 - The test method for large battery charger systems is Energy Efficiency Battery Charger System Test Procedure Version 2.2 dated November 12, 2008 and published by ECOS and EPRI Solutions with modifications.
- The large battery charger system test method is available at:

http://www.energy.ca.gov/appliances/2008rulemaking/2008-AAER-1B/2008-11-19_BATTERY_CHARGER_SYSTEM_TEST_PROCEDURE.PDF



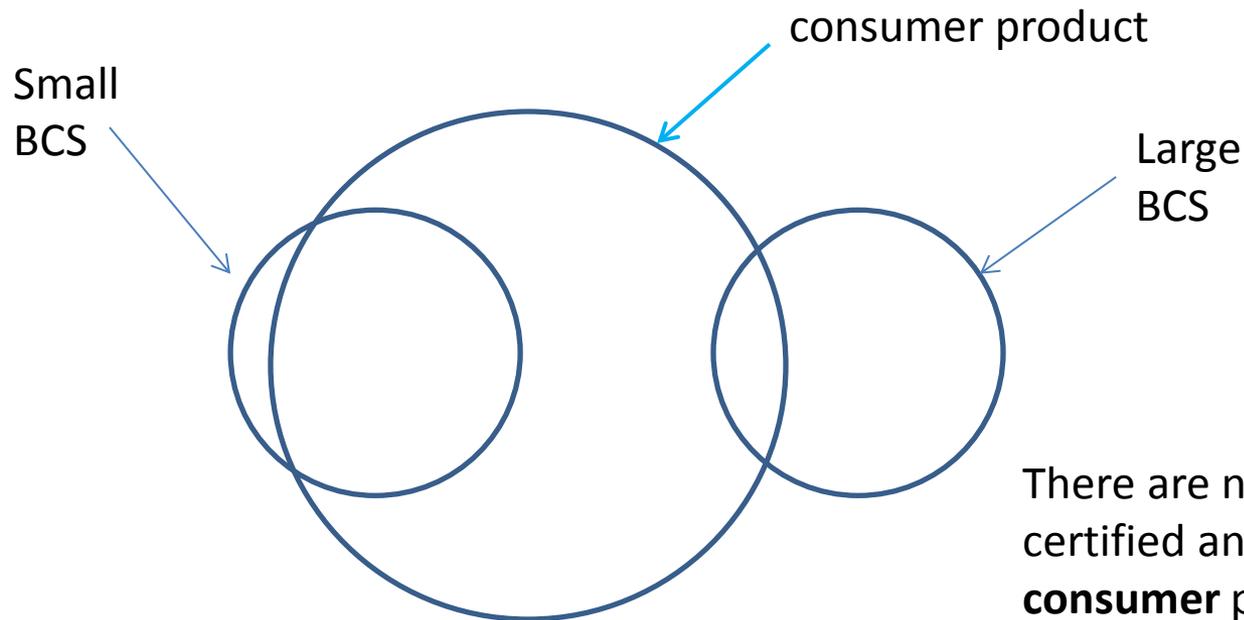
Applicability

- The new federal test method changes affect all large and small battery charger systems that are consumer products.
- The effective date of the new test method was June 20, 2016. However, the mandatory compliance date is November 16, 2016.



California Energy Commission

The new test method covers all consumer BCSs

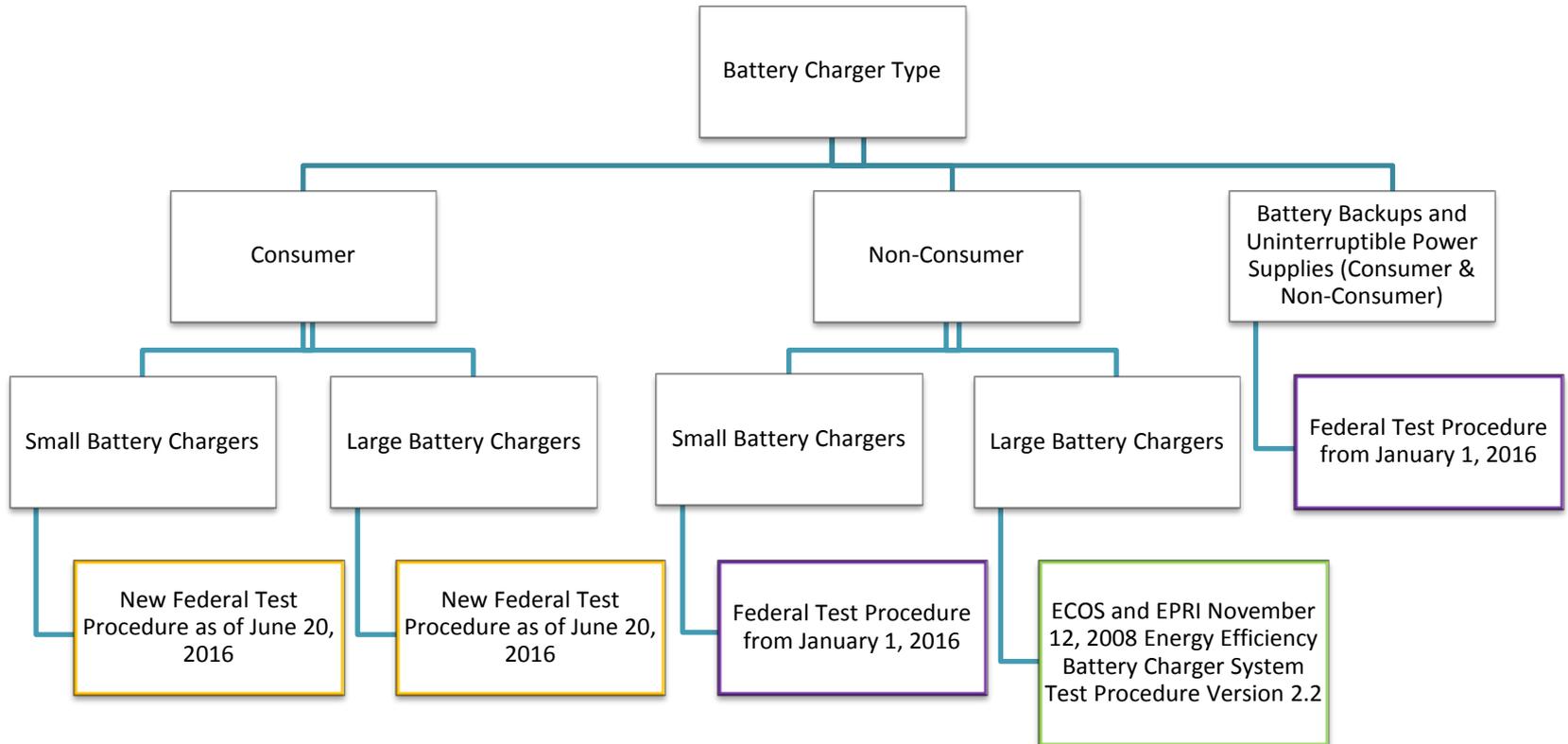


There are now **1,247 LBCSs** certified and all are **non-consumer** products (e.g., forklift BCSs).

There may be non-consumer SBCSs yet to be certified as that compliance date is January 1, 2017. This morning there are **26,141 SBCSs** certified to the active database.



Test Method Decision Chart





Notable Changes



Change 1: Battery Selection Criteria

- For multi-voltage, multi-capacity batteries:
 - the number of batteries selected for testing has been reduced to one.
 - The battery with the highest rated voltage is to be selected for testing.
 - If at least two batteries meet the criteria of having the highest rated voltage, then the battery with the highest rated charge capacity at that rated voltage is to be selected.



Change 2: IEC 62301

- The new federal test method harmonizes with International Electrotechnical Commission (IEC) 62301, which specifies methods of measurement of electrical power consumption in standby mode(s) and other low power modes.
- IEC 62301 is available for purchase at <https://webstore.iec.ch/publication/6789>



Change 3: Back-up Batteries and Uninterruptible Power Supplies

- The new federal test method excludes back-up batteries and uninterruptible power supplies from being required to be tested under the battery charger test procedure.
- However, these devices remain regulated under California's Title 20 and must be tested and certified using the current battery charger system test method, 10 C.F.R. Section 430.23(aa) (2015) (Appendix Y to Subpart B of Part 430).



Change 4: Lead Acid Batteries

- Lead acid batteries are now allowed to be conditioned prior to testing by applying the protocol currently used for other battery chemistries (excluding lithium-ion).
- Conditioning these batteries prior to testing will help reduce the variability of test results.



Change 5: Sampling

- The new federal test method adds a sampling methodology to be used for determining representations of battery charger energy consumption.



Certification Deadlines

- All battery chargers that are consumer products currently certified under the previous test method will be archived in MAEDBS on or near November 16, 2016.
- Manufacturers shall re-test and re-certify their products on or after November 16, 2016, using the new federal test method in order to be in the active database.
- Models that are manufactured and certified under the previous test method before November 16, 2016, can still be sold in California after the effective date, but will be archived in the database.



Important Links

- Final Rule for New Test Method:
 - <https://www.regulations.gov/document?D=EERE-2014-BT-TP-0044-0023>
- Previous Test Method (for certifying non-consumer small BCSs, back-up batteries, and uninterruptible power supplies):
 - http://www.ecfr.gov/cgi-bin/text-idx?SID=bf859a1bff8cbc3ec9fe678ff35554f5&pitd=20160115&node=ap10.3.430_127.y&rgn=div9



Resources

Title 20 Compliance Assistance Hotline

Toll free inside California **(888) 838-1467**

From outside of California **(916) 651-7100**

appliances@energy.ca.gov

Subscribe to the **Title 20 Compliance Assistance** listserv:

<http://www.energy.ca.gov/efficiency/listservers.html>

Webinar documents are located here:

<http://energy.ca.gov/appliances/forms/index.html#webdocs>



Questions?

