

DOCKETED

Docket Number:	17-BSTD-01
Project Title:	2019 Building Energy Efficiency Standards PreRulemaking
TN #:	221448-2
Document Title:	10-5-17 Joint Appendicies Presentation
Description:	Presentation by Peter Strait and Danny Tam made at the 10-5-17 Staff Workshop on the proposed 2019 Standards.
Filer:	Adrian Ownby
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	10/9/2017 2:07:25 PM
Docketed Date:	10/9/2017



2019 Building Energy Efficiency Standards

JOINT APPENDIX JA

Peter Strait

peter.strait@energy.ca.gov

Danny Tam

danny.tam@energy.ca.gov

October 5, 2017
Pre Rulemaking Workshop



JA7– DATA REGISTRY REQUIREMENTS

Work on revisions to Joint Appendix JA7 is in progress, and will be posted for review prior to the beginning of 45-day comment period

JA7.7- Data exchange requirements will be updated and clarified

JA7.8– Data Registry approval procedures will be updated and clarified



JA7– DATA REGISTRY REQUIREMENTS

JA7.9- Approval of Software Used for Data Input to Data Registries

Approval procedures for data transmittal services between Data Registries and cloud-based data services such as those used by diagnostic tool manufacturers will be added.

- These data transmittal procedures are an alternative to current keyboard input of information for completing and registering Title 24 Part 6 compliance documents.



JA8–Qualification Requirement for High Efficacy Light Sources

Several changes made to update JA8 and align with current Federal and industry standards:

- Lumen maintenance and rated life tests updated to current Energy Star tests; lumen maintenance and rated life requirements updated to minimum Energy Star requirements.
- NEMA 77 allowed as an option for testing flicker. Devices using NEMA 77 must have a Pst and SVM no greater than 1.0.
- Removed dimming as a requirement for JA8 as dimming is no longer required for all areas that JA8 applies to.
- Removed Du'v' as a requirement - luminaires must be within the ranges specified in ANSI C78.377 rather than a tighter ellipse.



JA8–Qualification Requirement for High Efficacy Light Sources (Continuation)

Several changes made to update JA8 and align with current Federal and industry standards:

- Aligned color rendering requirement with Title 20 - T20 LED devices must meet T20 CRI requirements, all others must have a CRI of 90+ and an R9 of 50+.
- Reduced Power Factor requirement to ≥ 0.7 for low-wattage devices ($\leq 5w$).
- Allowed testing start time from standby where the standby state consumes no more than 0.2 watts (i.e., from an “off-like” standby mode).



JA11–Qualification Requirement for Battery Storage System

- New Joint Appendix outlines the minimum qualification requirements for battery storage systems
- Minimum Performance Requirements
 - Usable Capacity of 6 kWh
 - Continuous charging/discharging rate of 4kW
 - Round-trip efficiency of 85 percent
 - Energy capacity retention of 70 percent after 4,000 cycles



JA11–Qualification Requirement for Battery Storage System (Continuation)

- General Control Requirements
 - Remote program capability
 - Programmed to first meet the load of the dwelling with capability to discharge to the grid
 - Automatic switch between backup and programmed mode during power failure
- Basic Control
 - Discharge when PV production is less than the dwelling load
- Advanced Control
 - Charge only during off-peak hours and discharge only during peak hours



JA11–Qualification Requirement for Battery Storage System (Continuation)

- (d) Energy capacity retention of ~~80-70~~ percent after ~~7,500~~4,000 cycles

JA11.2.3 Control Requirements

JA11.2.3.1 General

The requirements in this section are applicable to all control strategies.

- (a) The battery storage system shall have the capability of being remotely programmed to change the charge and discharge periods. ~~Also, the battery storage system shall allow the occupant to program the charge and discharge periods.~~ At the minimum, the system shall be capable to program a summer schedule and a winter schedule.
- (b) During discharge, the battery storage system shall be programmed to first meet the electrical load of the dwelling. If during the discharge period the electrical load of the dwelling is less than the maximum discharge rate, the battery storage system ~~may~~shall have the capability to discharge ~~energy~~electricity into the grid.
- (c) Should the occupant initiate an override to backup mode, such selection will expire in no more than a 24-hour period and the operation mode shall return to default.



JA12–Qualification Requirement for Photovoltaic System

- New Joint Appendix outlines the minimum qualification requirements for Photovoltaic system
- System Orientation
 - Systems or strings must be within 110 to 270 degrees from true north
- Shading Verification
 - System shall meet minimal shading criterion or specify shading characteristics using solar assessment tool



JA12–Qualification Requirement for Photovoltaic System (Continuation)

- System Monitoring Requirements
 - Require both dwelling and remote monitoring capability
 - Provide system information such as current kW production and running total kWh
- System Performance Requirements
 - CFI orientation of 150 to 270 degrees shall produce at least 1,450 kWh per nominal kW
 - CFI orientation of 110 to 149 degrees shall produce at least 1,600 kWh per nominal kW



KEY WEB-LINK

2019 Title 24 Utility-Sponsored Stakeholder

<http://title24stakeholders.com/>

Building Energy Efficiency Program

<http://www.energy.ca.gov/title24/>

Comments to be submitted to

<https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=17-BSTD-01>



Standards Contact Information – Energy Commission

Mazi Shirakh, PE

ZNE Technical Lead & Advisor to the 2019 Building Standard Staff.

Mazi.Shirakh@energy.ca.gov

916-654-3839

Payam Bozorgchami, PE

Project Manager, 2019 Building Standards

Payam.Bozorgchami@energy.ca.gov

916-654-4618

Larry Froess, PE

CBECC Software Lead

Larry.Froess@energy.ca.gov

916-654-4525

Peter Strait

Supervisor, Building Standards Development

Peter.Strait@energy.ca.gov

916-654-2817

Christopher Meyer

Manager, Building Standards Office

Christopher.Meyer@energy.ca.gov

916-654-4052

Todd Ferris

Supervisor, Software Tools Development

Todd.Ferris@energy.ca.gov

916-654-4072





Building Standards Office Staff – Energy Commission

Mark Alatorre, P.E.

Mechanical / HVAC (nonresidential)

Mark.Alatorre@energy.ca.gov

916-654-4642

Thao Chau

Lighting

Thao.Chau@energy.ca.gov

916-654-4168

Simon Lee, P.E.

Lighting

Simon.Lee@energy.ca.gov

916-654-4525

Jeff Miller, P.E.

Mechanical / HVAC (residential)

Jeff.Miller@energy.ca.gov

916-651-6182

Michael Shewmaker

Envelope

Michael.Shewmaker@energy.ca.gov

916-653-1584





Building Standards Office Staff – Energy Commission

Gabriel Taylor, P.E.

Healthcare Facility Integration/ Demand
Response

Gabriel.Taylor@energy.ca.gov

916-654-4482

Danny Tam

Plumbing/Water Heating/ Solar PV

Danny.Tam@energy.ca.gov

916-654-8435

Ingrid Neumann

Local Ordinances, Cal Green

Ingrid.neumann@energy.ca.gov

916-651-1461





Questions/Comments

