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California Energy Commission

Low Power Mode Roadmap

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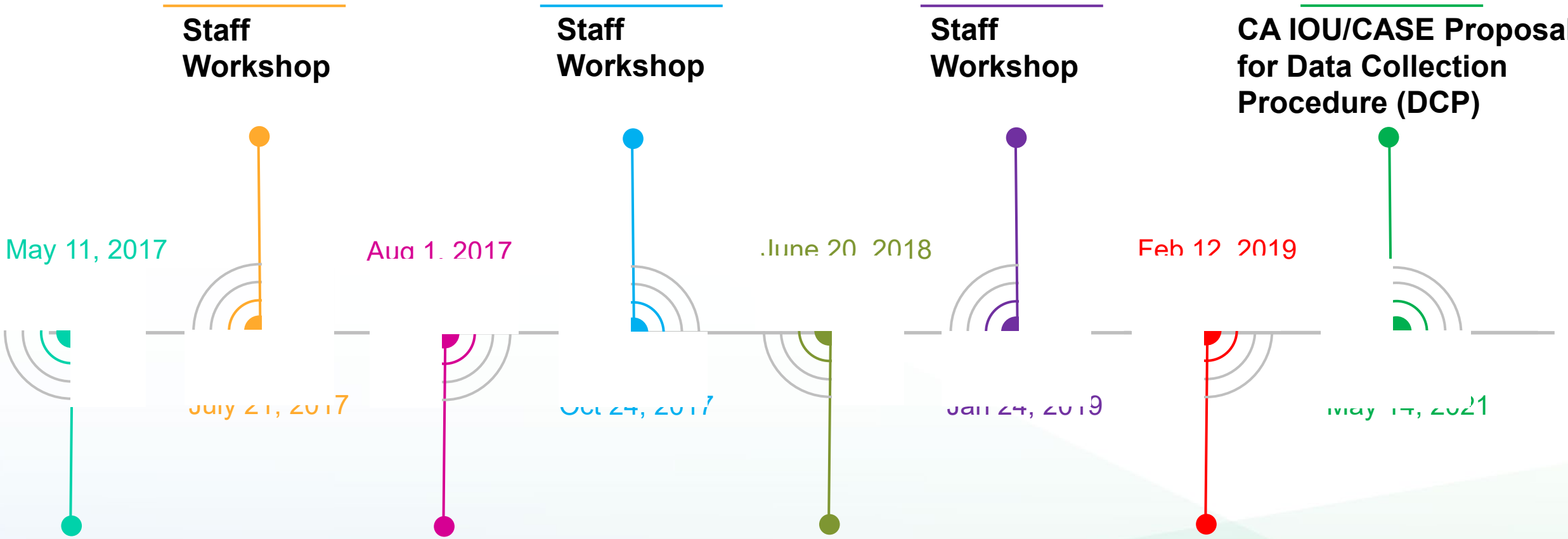
August 25, 2021

Agenda

- History
- Motivation, Background, Framework
- Low-Power Mode Roadmap Plan
  - Initial Scope
  - Data Collection Procedure
  - Data Collection
  - Data Evaluation
- Next Steps
- Questions and Comments

History: Roadmap Activities



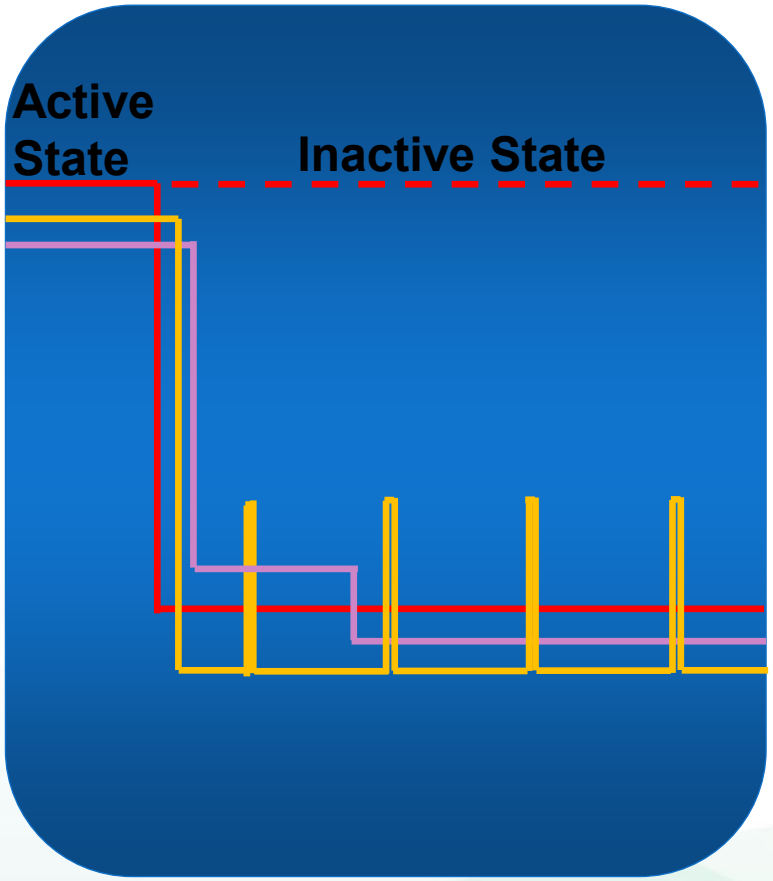
Motivation

- Energy use from unregulated electric loads continues to grow
- Much of this energy use is from products:
  - Sitting idle
  - Not performing active mode function
- Study found idle load electricity accounts for 23% of household electricity consumption[1]
- LPM Roadmap is non-regulatory approach to achieve energy savings for devices in “Inactive State”

[1] https://www.nrdc.org/sites/default/files/home-idle-load-IP.pdf

Background

- **Active State:** Device performing its main or primary function/task
- **Inactive state:** Device not performing its main or primary function. Examples: idle, stand-by, sleep, low-power mode
  - Represented with time-averaged modes when its primary functions are not used or not needed



Framework: Clustered Horizontal

Horizontal:

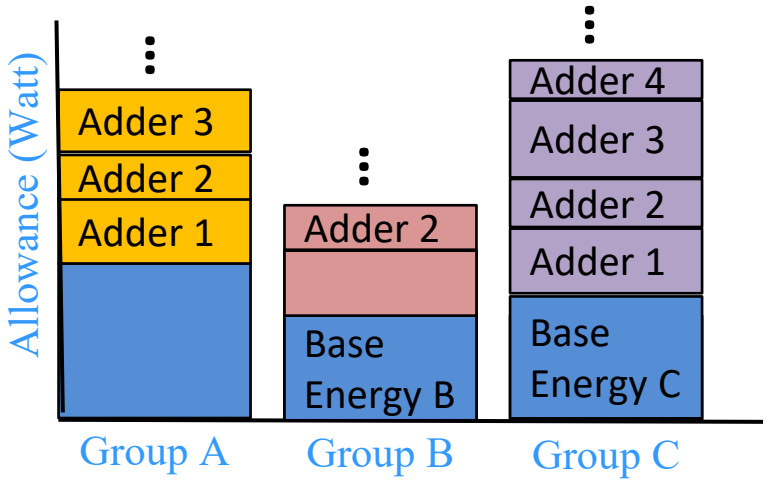
- Group products with similar baseline power consumption in “Inactive State”
- Establish baseline power for each group

Power Adders:

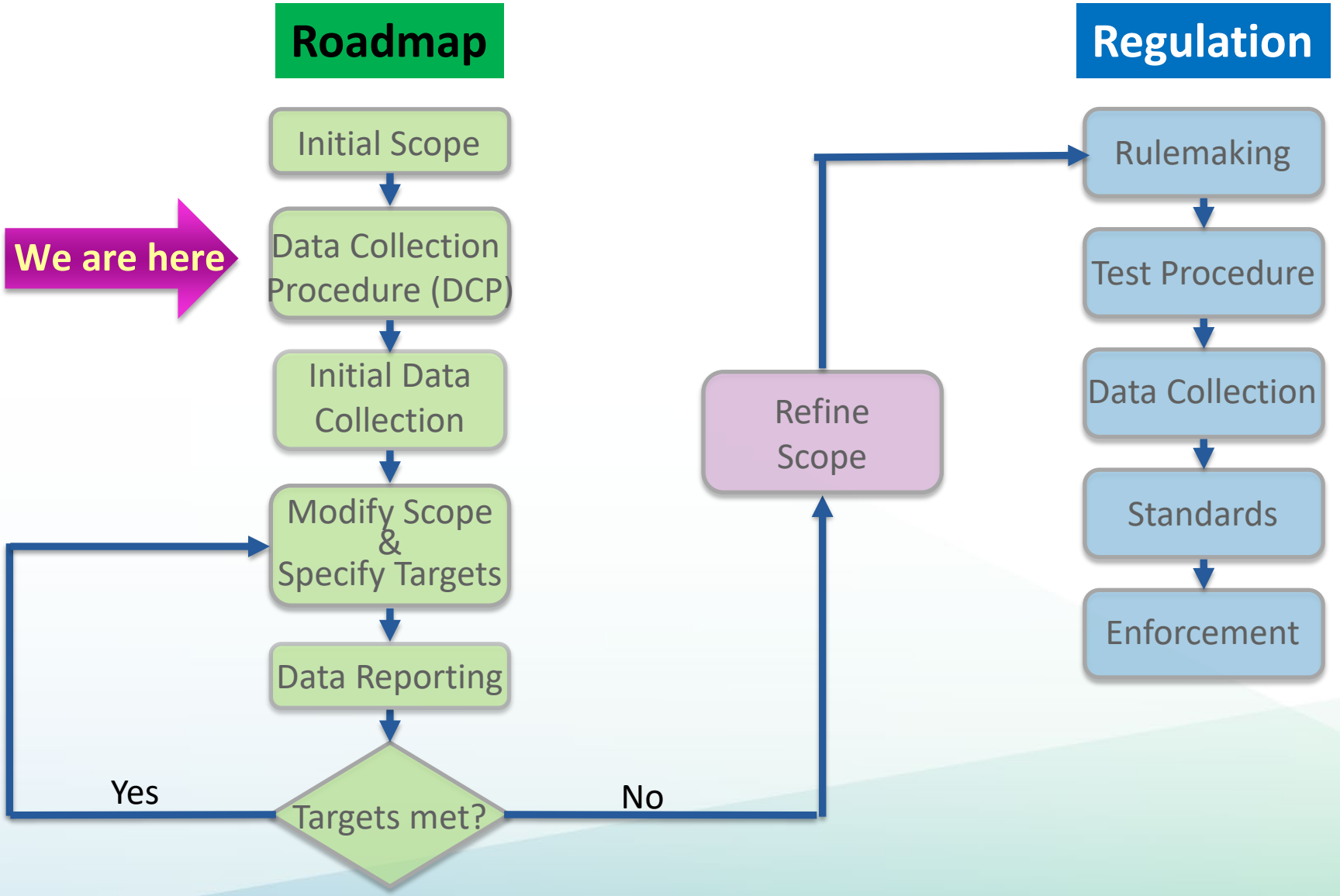
- Establish power adders for specific secondary functions such as: display, network connection, sensors
- Each product eligibility for adders based on functionality

Power Consumption Limit:

- Combination of baseline and power adders
- Base allowance and adder rulesets could vary by cluster

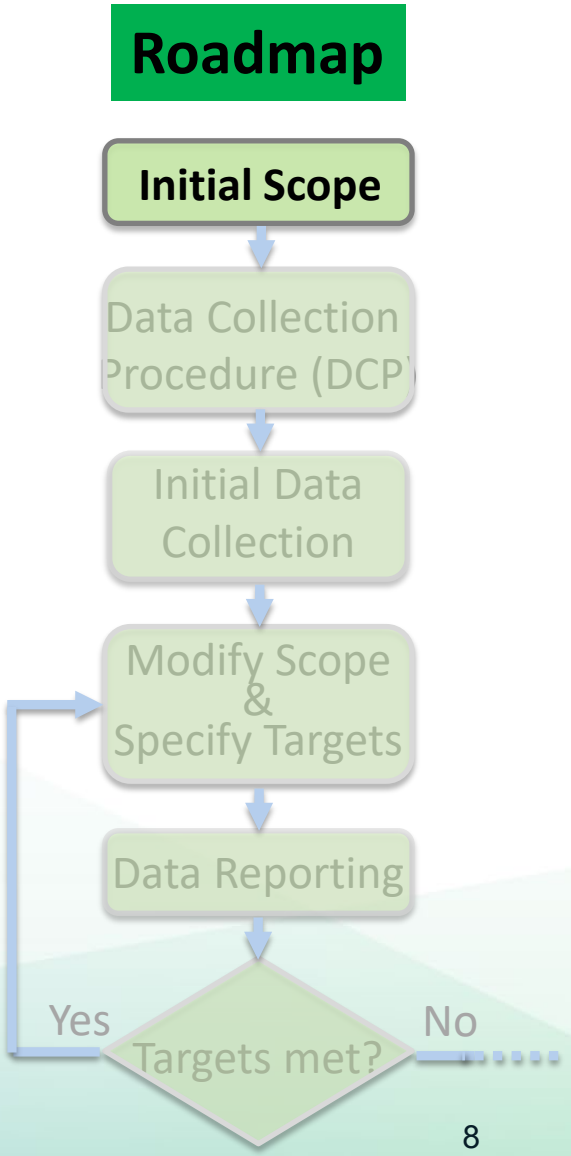


LPM Roadmap Plan



Initial Scope: Included Products

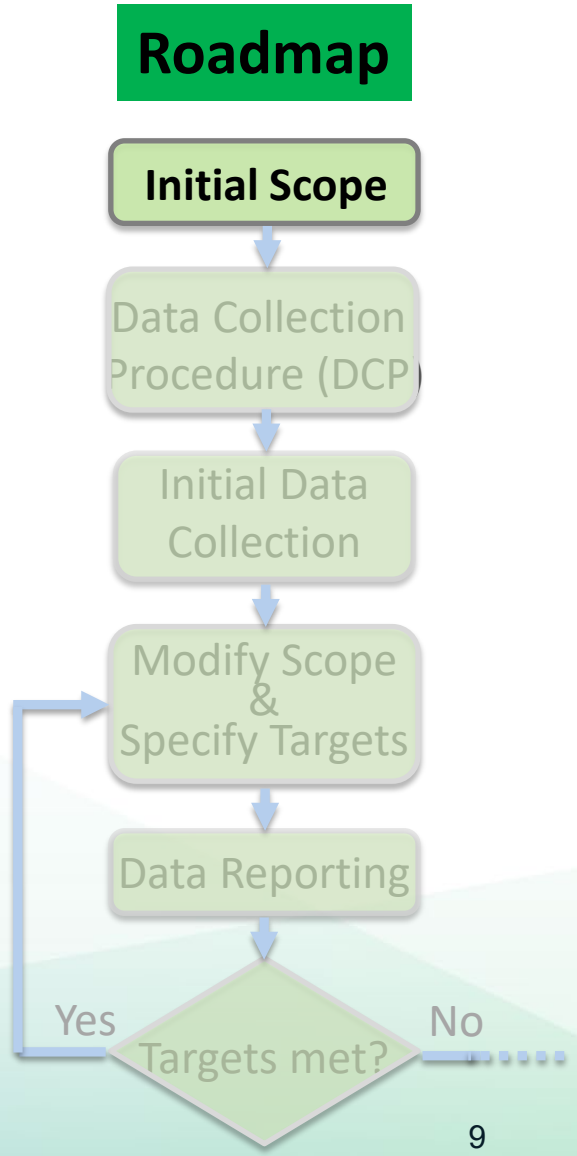
Initial scope is broad and includes all electric devices, except excluded products (next slides)



Initial Scope: Excluded Products

1. CA-regulated appliances that have LPM efficiency requirements
2. Federally regulated appliances that have LPM efficiency requirements
3. Appliances in other CEC roadmaps
4. Products powered solely by disposable batteries

Additional product types may be excluded based on collected data results (due to very low energy savings potential)



Initial Scope: Excluded Products (Continued)

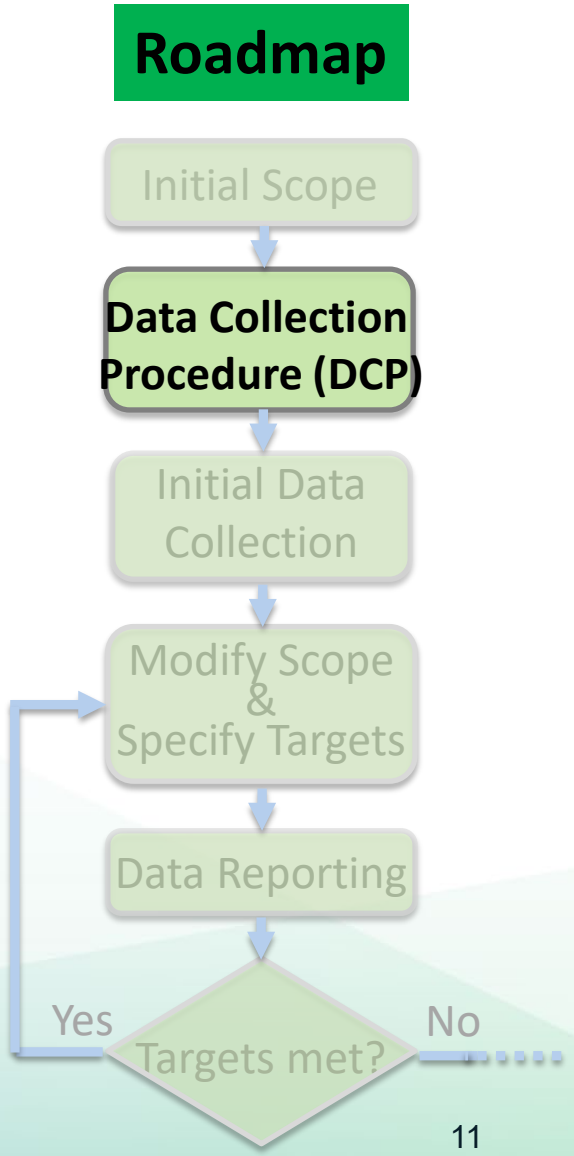
1. California State Regulated with Explicit LPM Limits
Computers
Monitors
Televisions
Signage Displays
State-Regulated Battery Chargers
State-Regulated External Power Supplies
State-Regulated LED Lamps
Deep-Dimming Fluorescent Lamp Ballasts
Compact Audio Products
DVD Players and Recorders
Water Dispensers
Portable Electric Spas
Commercial Hot Food Holding Cabinets
LPG Non-Packaged Boilers
Natural Gas Non-Packaged Boilers
Natural Gas Duct Furnaces
LPG Duct Furnaces

2. Federally Regulated with Explicit LPM Limits
Microwave Ovens
Residential Furnaces and Boilers
Federally Regulated External Power Supplies

3. Other CEC Roadmaps
Set-top Boxes
Solar Inverters

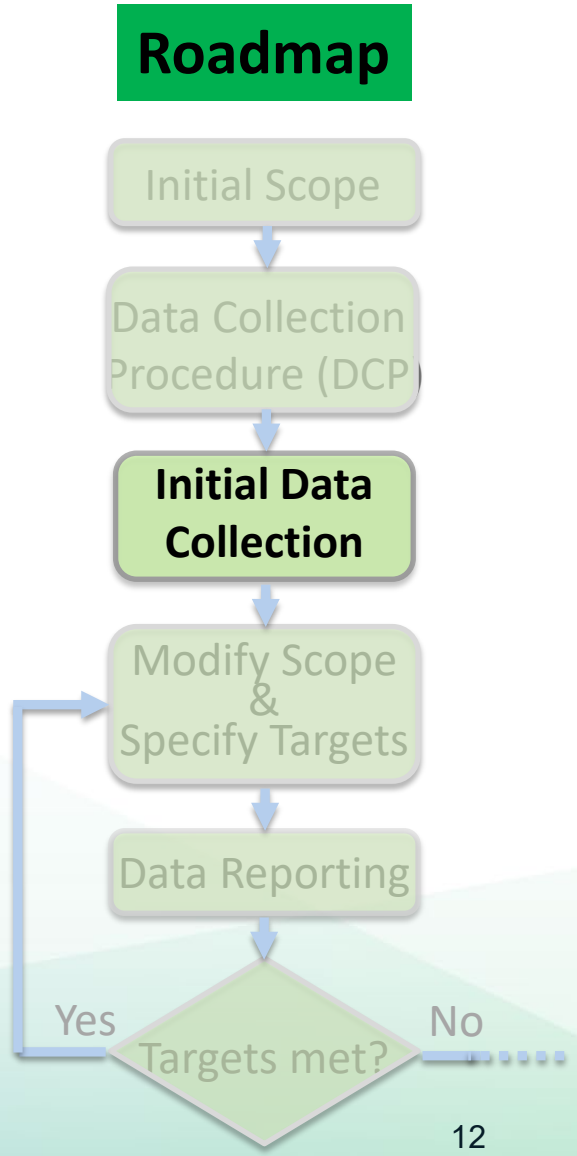
Data Collection Procedure (DCP)

- Objectives: develop DCP that meets:
  - Common test procedure for products to measure power in “Inactive State”
  - Test set-ups are repeatable, reliable, represent actual energy use
- CA IOU CASE team proposes DCP to meets objectives



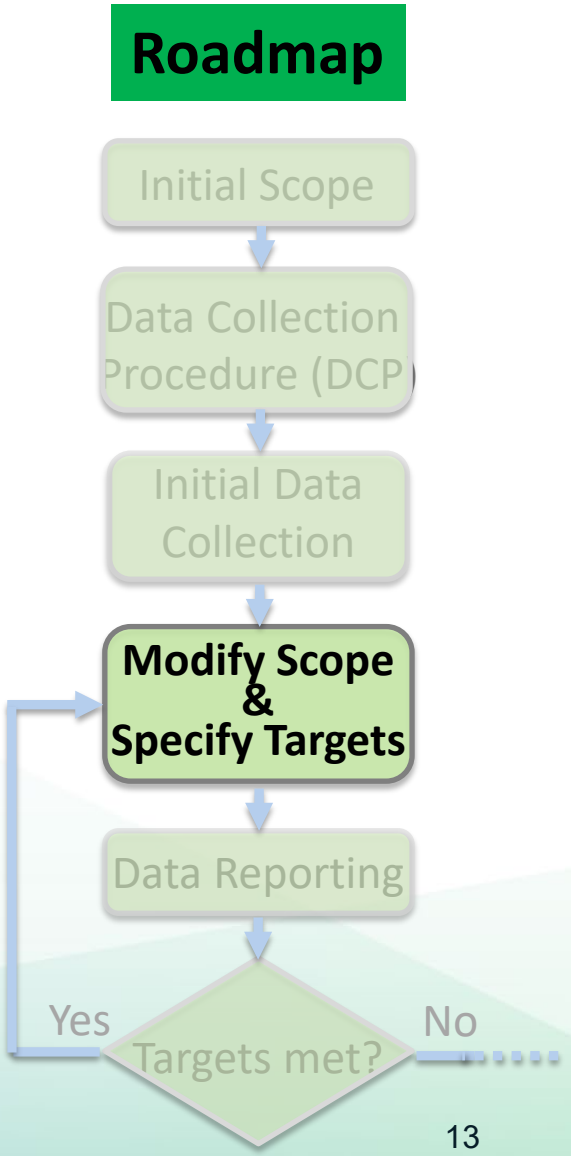
Initial Data Collection

- DCP data submitted to CEC's public database
- CEC and stakeholders analyze data to:
  - Modify scope, if needed
  - Define power targets
- CEC solicits DCP data and complementary data (power for functions, duty cycle, shipments)
- Additional data may be submitted as "Confidential"



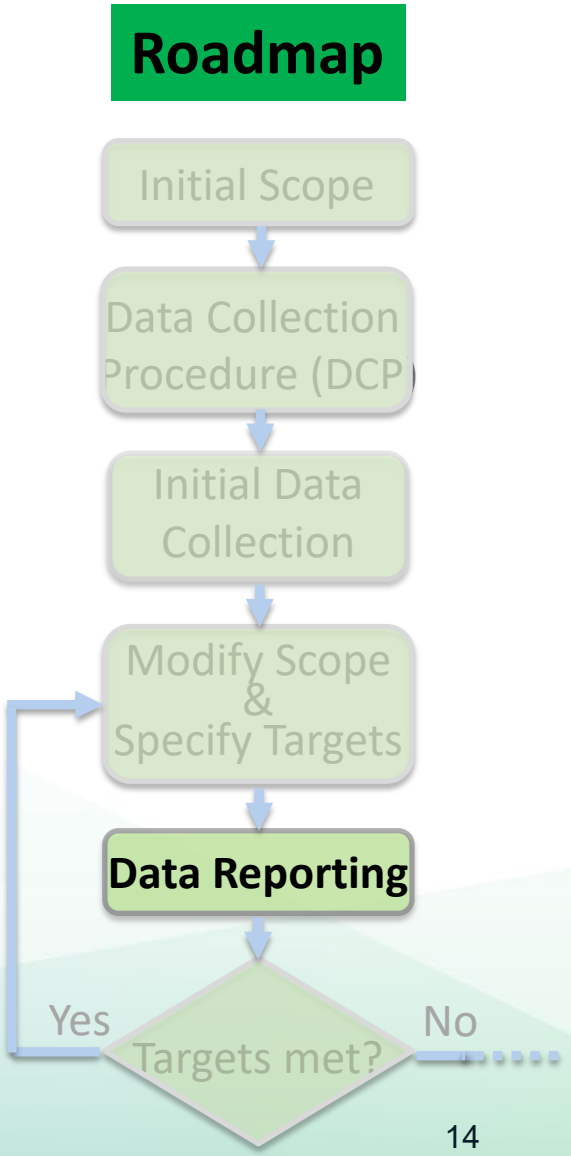
Modify Scope and Specify Targets

- Initial scope may be changed based on data collected
- Specified targets:
  - Participation rate
  - Energy savings
  - Timeline



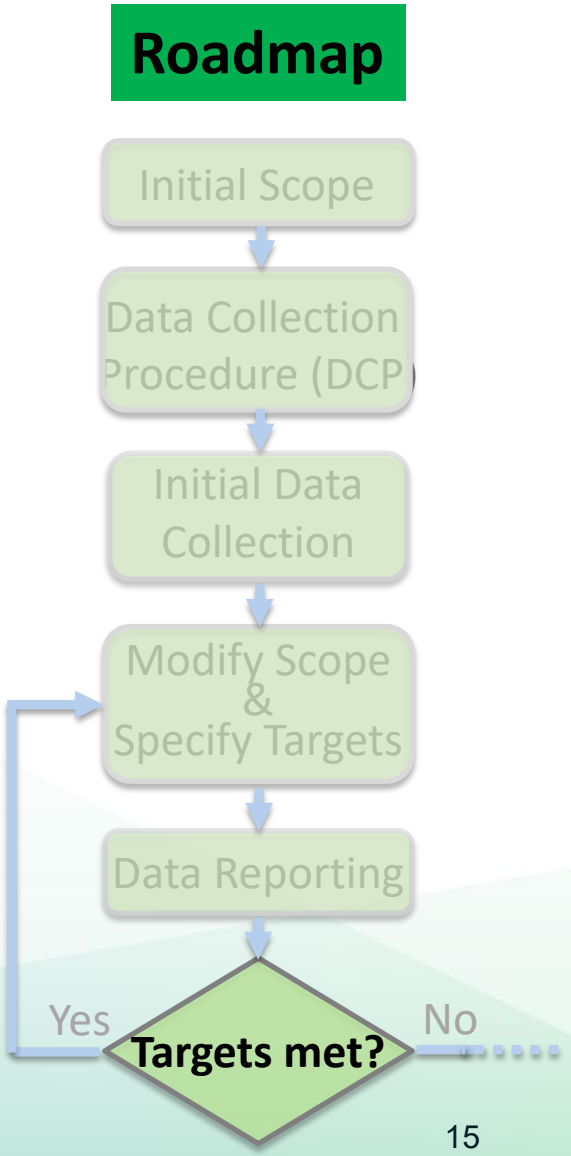
Data Reporting

- Updated data collected
- Test against targets



Data Evaluation

- Reported data evaluated to determine if targets are met
- Not meeting the targets may result in:
  - Rulemaking to require data submittal
  - Rulemaking to require data submittal and compliance with power limits



Next Immediate Steps

- Finalize DCP
  - Stakeholders **submit comments to docket by October 11**
- CEC *may* publish RFI for LPM functions, duty cycles, other information
- Collect data per DCP
- CEC welcomes additional relevant data collected through more customized test procedures
  - Additional data cannot replace data collected per DCP

Long-Term Steps

- Analyze data collected and establish roadmap goals
  - Modify scope, if needed
- Publish Staff Analysis for participation and efficiency targets
- Public comments collected during each stage
- Public workshops conducted, as needed
- Stakeholders can submit confidential data or comments
- CEC adopts LPM Roadmap
- Repeat cycle to modify scope or targets

Written Comments

- **Written comments due by October 11, 2021**
- Submit written comments to:

Docket # 17-AAER-12

http://www.energy.ca.gov/appliances/2017-AAER-06-13/17-AAER-12.html

- Instructions to submit written comments:

https://efiling.energy.ca.gov/GetDocument.aspx?tn=226317&DocumentContentId=57082

Thank You!

Questions & Comments

- Type comments and questions in “Chat Box”
  - Your question will be read aloud
- Use “Raise Hand” feature to ask question
  - Your line will be unmuted to speak