| DOCKETED | |
|---|---|
| **Docket Number:** | 19-AAER-01 |
| **Project Title:** | Spray Sprinkler Bodies |
| **TN #:** | 228772 |
| **Document Title:** | Presentation - Public Hearing Slide - Staff Presentation |
| **Description:** | N/A |
| **Filer:** | Sean Steffensen |
| **Organization:** | California Energy Commission |
| **Submitter Role:** | Commission Staff |
| **Submission Date:** | 6/18/2019 8:43:18 AM |
| **Docketed Date:** | 6/18/2019 |

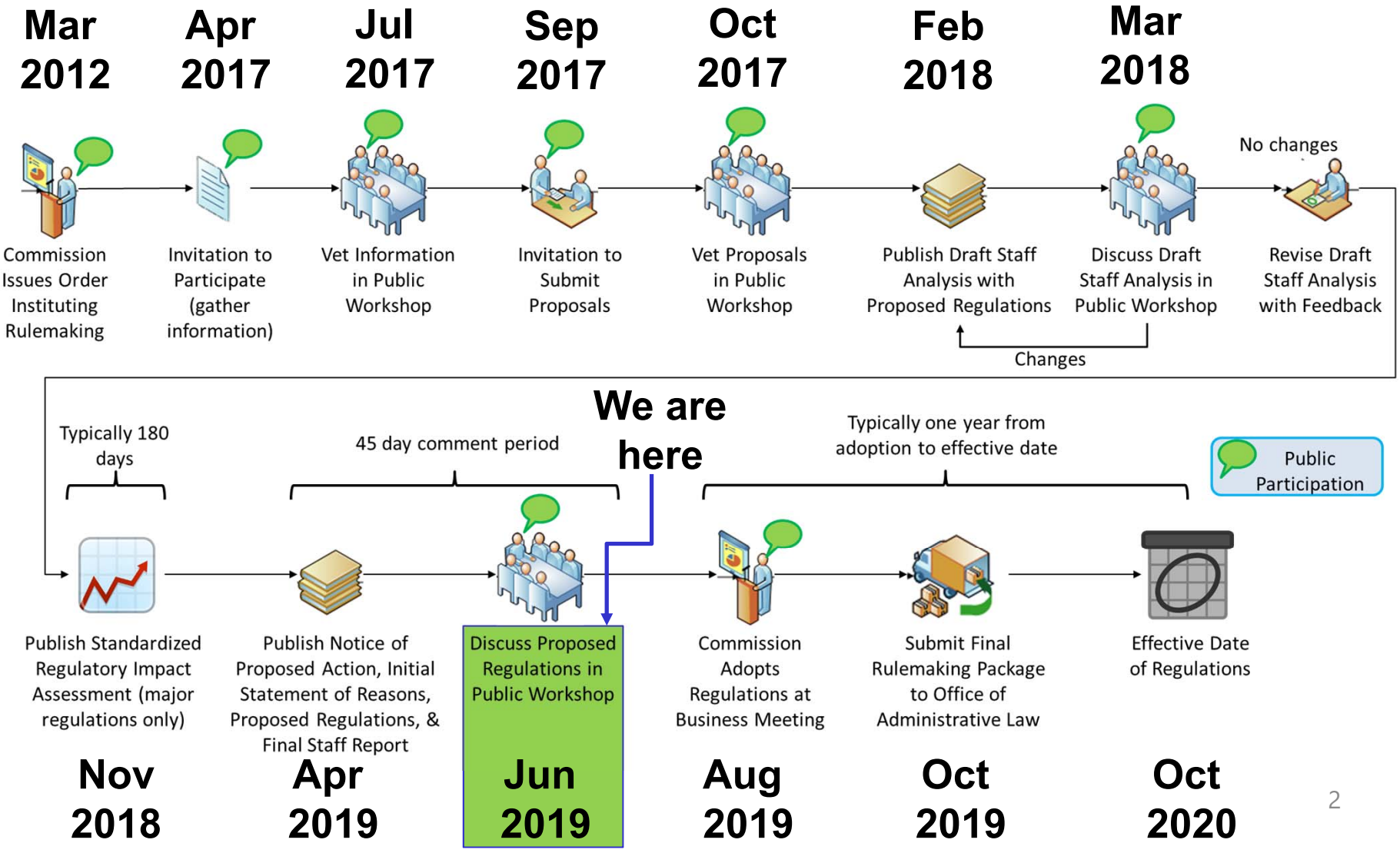
# Spray Sprinkler Bodies
# Docket # 19-AAER-01
# Public Hearing

## June 18, 2019

## 10 a.m. to Noon

Sean Steffensen
Appliances Office
Efficiency Division
California Energy Commission

# Summary of Events



# Rulemaking Timeline

- November 20, 2018: Standardized Regulatory Impact Assessment provided to Department of Finance
- April 26, 2019: Rulemaking documents posted
- May 9, 2019: Notice of Comment Period Extension posted
- May 17, 2019: California Environmental Quality Act (CEQA) document posted
- June 17, 2019: 45-day (rulemaking) and 30-day (CEQA) public comment periods end
- June 18, 2019: Public hearing and Oral Comments
- August 14, 2019: Proposed adoption hearing
- October 1, 2020: Proposed effective date

# California Environmental Quality Act (CEQA)

- Project – statewide minimum efficiency levels for spray sprinkler bodies (SSB)
- Energy impacts – reduce future electricity consumption through less pumping of water
- Environmental impacts
  - No significant change to materials or manufacturing
  - No change to product lifetime of SSB
  - Reduced criteria pollutants, greenhouse gases, and other particulates due to less electricity use

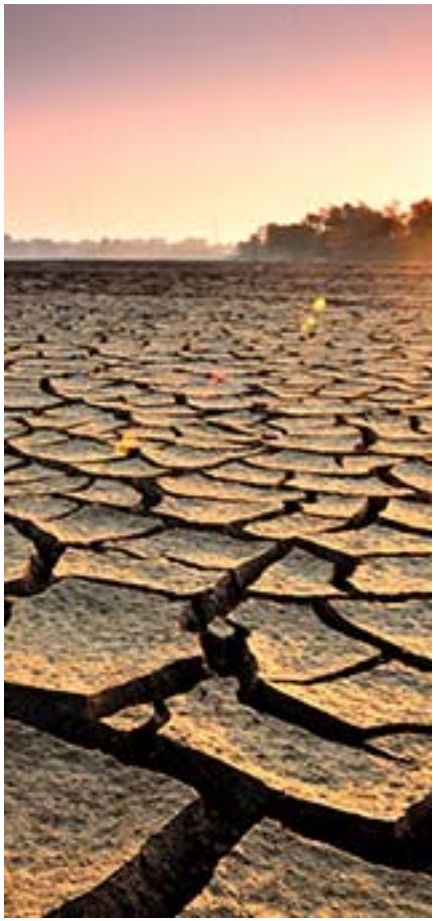
# CEQA

- Staff finding that the proposed efficiency standards will not have any significant adverse effect on environment
- No written comments received by deadline on June 17, 2019
- Staff will recommend that the Energy Commission adopt the proposed negative declaration

# Protecting Our Water Supply

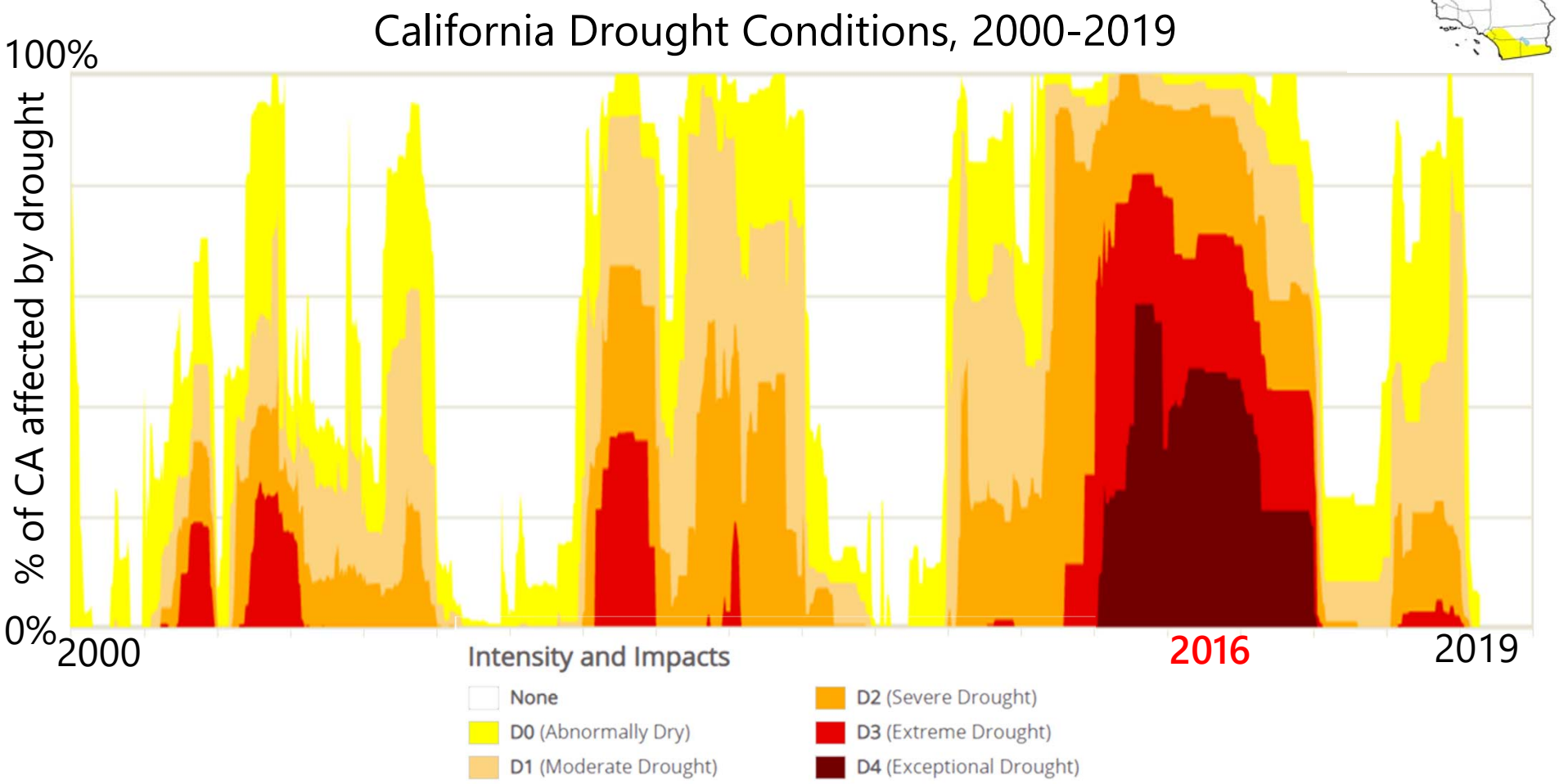
*Our drought was a wake up call to the impacts of climate change, and the immediate need to rethink the way we use water. …we've got to get a lot smarter about how we store and utilize this resource to ensure that our economy, communities and natural places can all thrive.*

***Governor Gavin Newsom***



Our economy, community, and natural places will thrive with smarter water use

# Making Water Conservation a California Way of Life




19 years of above average dry conditions

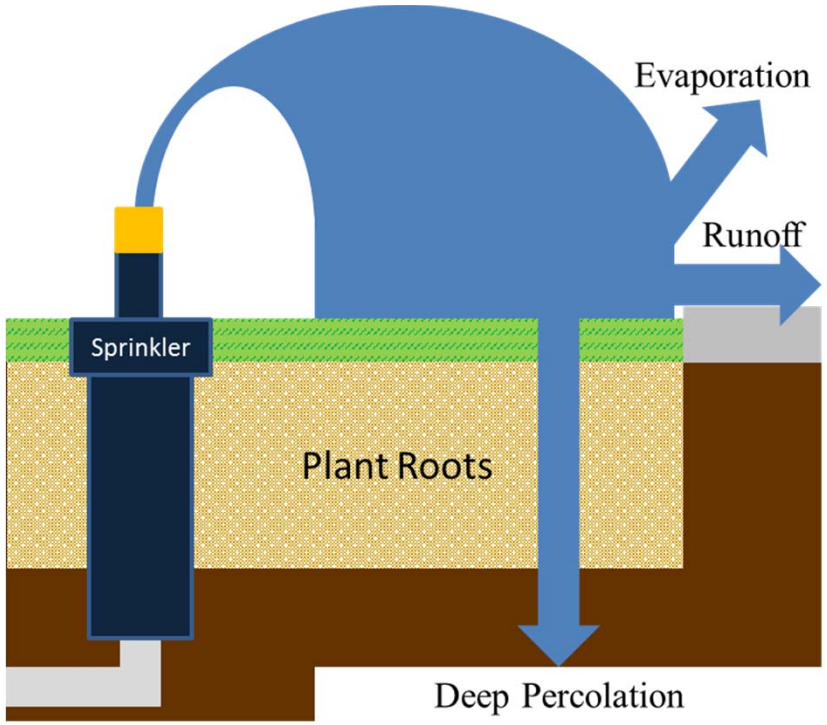
# Landscapes contribute to our quality of life


Proposal will maintain landscapes while using less water

# Landscape Irrigation

- Significant water waste from over-irrigation and excessive water pressure

**Irrigation Water Losses**



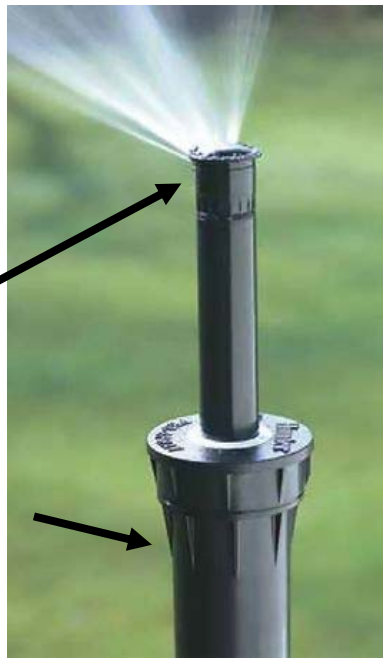

Proposal will save over 150 Billion gallons per year

# Staff Proposal

- Provide scope and definitions for SSB
- Set SSB test method to the EPA WaterSense Specification for Spray Sprinkler Bodies, V1.0.
- Establish SSB certification and marking requirements.
- Set a mandatory SSB standard complementary to the voluntary WaterSense specification.

# Product Description

- SSB may be sold separately as a sprinkler body or with a nozzle
- Options include pressure regulators and check valves




| Key Facts | |
|---|---|
| Purchase Price | $2-$15 |
| Product Lifetime | 10 years |
| CA Shipments | 31 million/year |
| CA Stock | 305 million |
| Water use per SSB | 3000 gallons/year |

There are many SSBs in California that use a significant amount of water

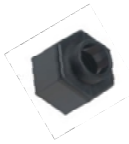
# Scope

- All spray sprinkler bodies sold or offered for sale in California

**IN**







**Spray Sprinklers Bodies**

**OUT**



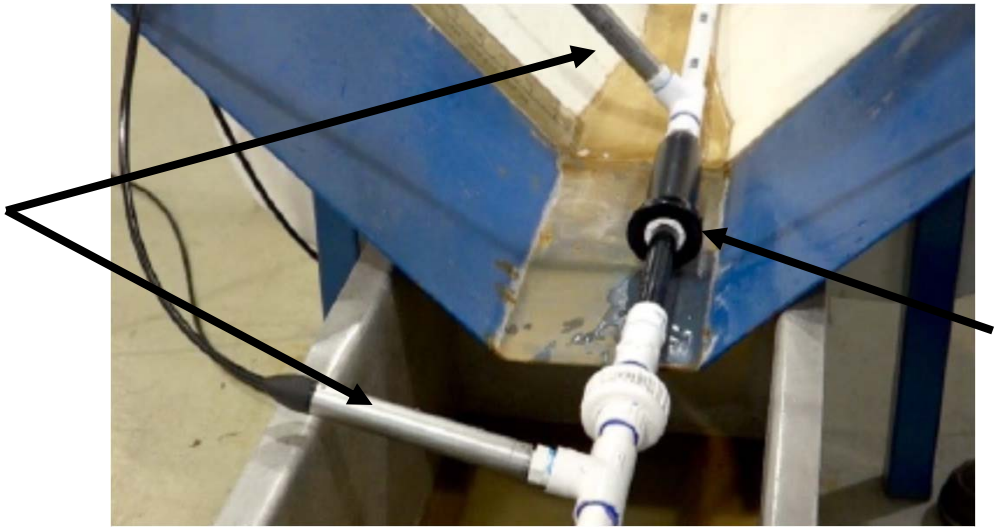
**Rotor Sprinklers**

**Valve-in-head Sprinklers**

**Hose End Sprinklers**

# Proposed SSB Test Method

- Staff proposes to adopt the Appendix B of the WaterSense Specification for Spray Sprinkler Bodies Version 1.0 as the test method
- The test requirements are identical to WaterSense



# Proposed SSB Standard

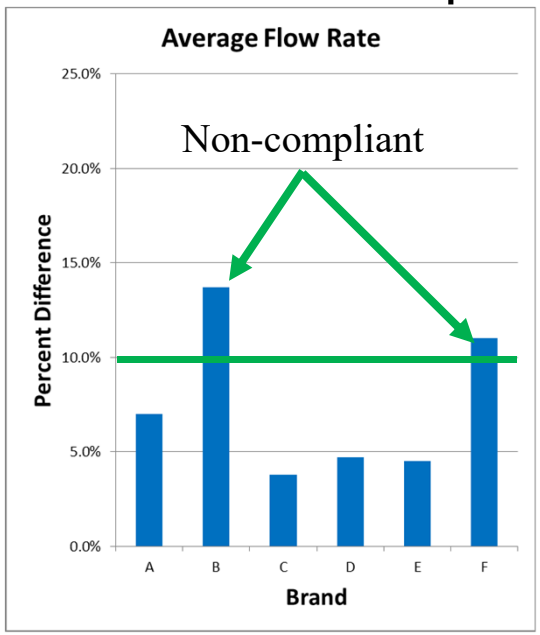
- Three Performance Requirements
  - The maximum flow rate at any tested pressure level shall not exceed +/- 12.0 percent of the initial calibration flow rate.
  - The average flow rate across all tested pressure levels shall not exceed +/- 10.0 percent of the initial calibration flow rate.
  - The average outlet pressure at the initial calibration point shall not be less than 2/3 of the regulation pressure.
- The performance requirements are identical to WaterSense

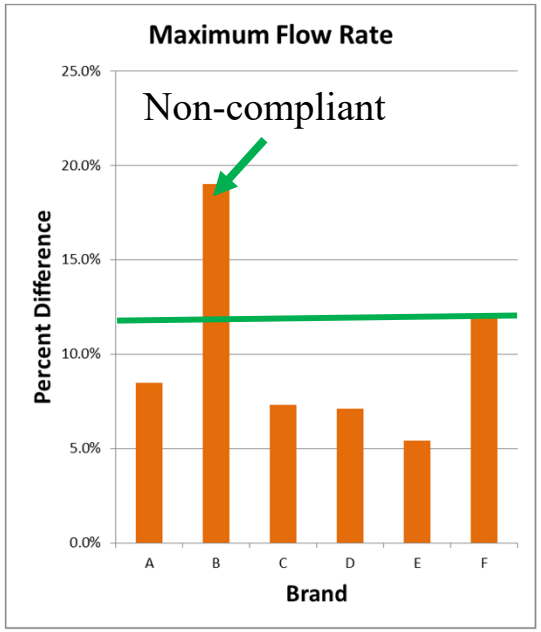
# Certification and Marking Requirements

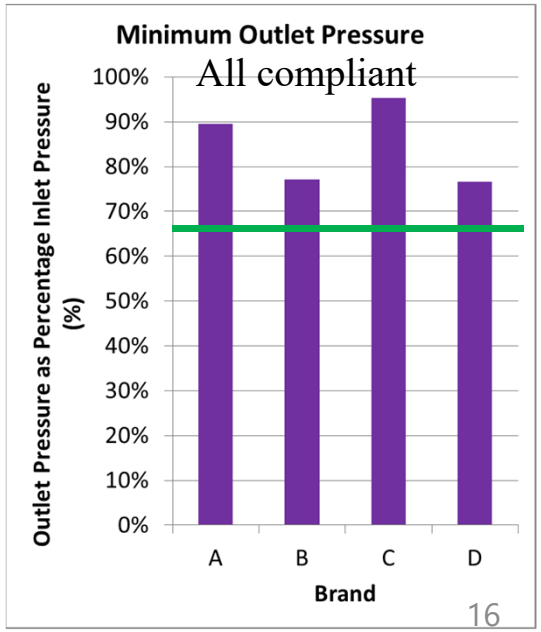
- Manufacturers would be required to certify each model of spray sprinkler body to the Energy Commission's appliance efficiency database.
- Manufacturers would be required to mark each SSB with:
  - Manufacturer name
  - Brand name or trademark
  - Model number
  - Date of manufacture
  - Marking may be on unit, or unit packaging
- The presence of integral pressure regulation shall be marked on a spray sprinkler body in a location visible after installation.

# Technical Feasibility

- Proposed standards can be met with existing technology
- University of Florida test results show models capable of complying to SSB standard
- Over 100 SSB models certified to US EPA as compliant to WaterSense specification

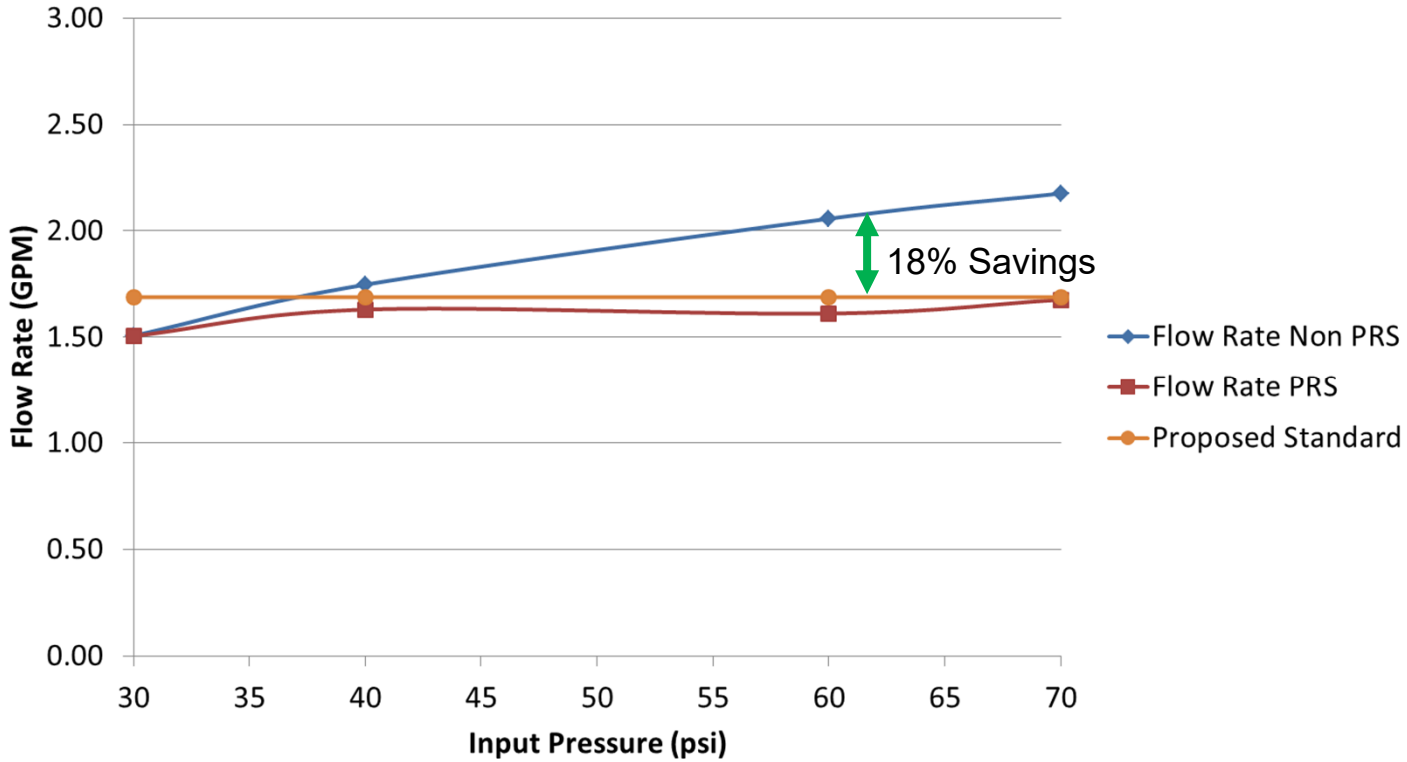


# Savings Methodology

- The water savings are calculated by comparing non-compliant products to the proposed standard.
- Staff assumed 90 percent of SSB stock is non-compliant



# Cost Effectiveness

| Product | Design Life (years) | Water Savings (gal/yr) | Embedded Electricity Savings (kWh/yr) | Incremental Costs ($) | Lifetime NPW Savings ($/yr) | Lifecycle Benefit ($) |
|---|---|---|---|---|---|---|
| Spray Sprinkler Bodies | 10 | 554 | 2.0 | $4.68 | $27.23 | $22.55 |

- Lifecycle benefit includes savings discounted at 3%

Proposed standard is cost effective

# Statewide Water and Electricity Savings

| Product Type | Statewide 1st Year (B gal/yr) | Embedded Electricity 1st Year (GWh/yr) | Statewide Stock (B gal/yr) | Embedded Electricity Stock (GWh/yr) |
|---|---|---|---|---|
| Spray Sprinkler Bodies | 15,228 | 54 | 152,286 | 543 |

Significant savings of utility and natural resources

# Statewide Monetary Savings

| | First Year | | | Stock Savings | | |
|---|---|---|---|---|---|---|
| **Product Type** | **Water Delivery (M$/yr)** | **Embedded Electricity (M$/yr)** | **Total (M$/yr)** | **Water Delivery (M$/yr)** | **Embedded Electricity (M$/yr)** | **Total (M$/yr)** |
| Spray Sprinkler Bodies | $87.8 | $7.7 | $95.4 | $877.2 | $77.7 | $954.9 |

Significant savings to Californian consumers

# Comparison to Previous Water Standards

## Stock Turnover Savings

**Showerheads**
**38 Bgal/yr**

**Toilets,**
**Faucets,**
**and Urinals**
**87 Bgal/yr**

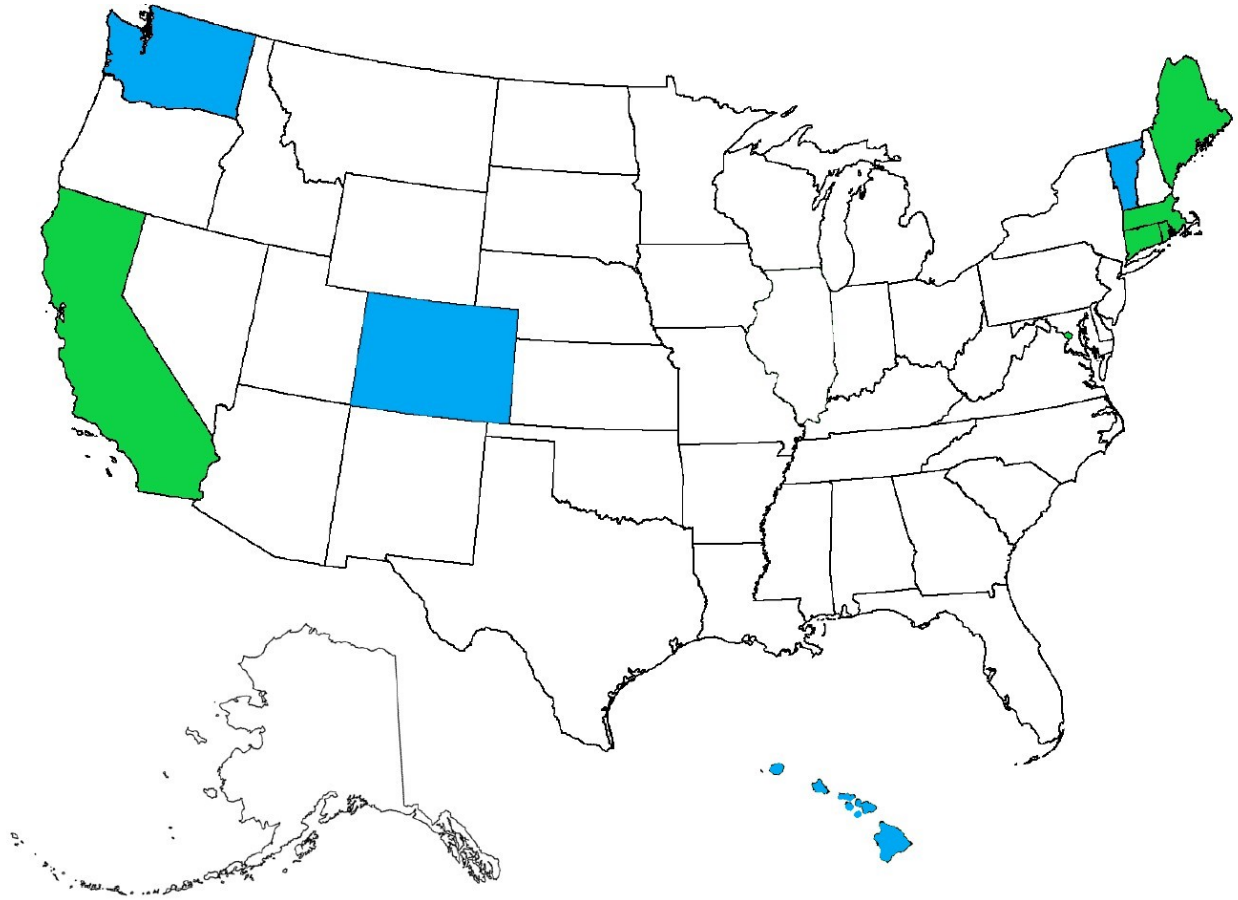
**Spray Sprinkler**
**Bodies**
**152 Bgal/yr**

Appliance Standards yield significant statewide water savings

# Savings equal water to grow all lettuce in California

That's a lot of green

# States With Similar Standards



**Adopted SSB Standard** **Proposed SSB Standard**

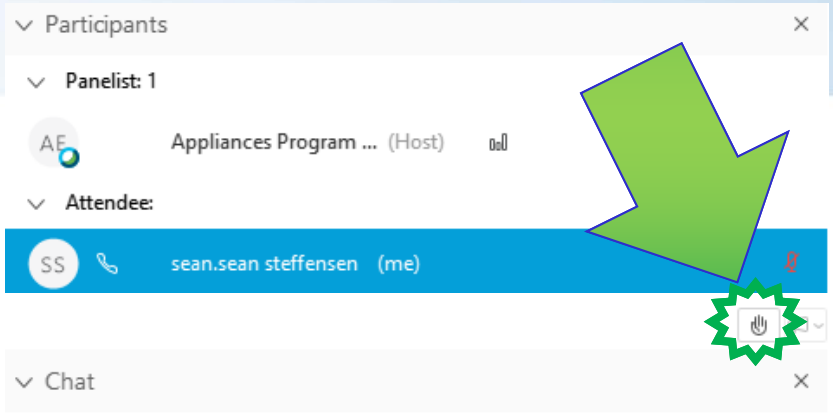
# Summary and Next Steps

- Staff finds the proposed standards are
  - Technically feasible
  - Cost-effective to the consumer
- Staff will consider comments from today and from the public comment period
- Staff will publish 15-day language if any changes are proposed
- Staff will seek adoption at a future Commission Business Meeting

# Public Comments

- Public comments from in-person participants
  - Come to microphone
  - Give business card to court reporter for name and affiliation accuracy
  - A copy of your comments is appreciated but not required

# Public Comments




- Public comments from Webex
  - Use raise-hand feature
  - Staff will call upon you
  - Please state name and affiliation for court reporter
  - Type a comment into chat-box and it will be read into record
- Phone only participants
  - All lines will be un-muted

Please state name and affiliation for court reporter

# Proposed Adoption

- Energy Commission business meeting
  - August 14, 2019, 10 a.m.
  - 1516 Ninth Street
  - Sacramento, California 95814
  - Art Rosenfeld Hearing Room
  - First Floor (Wheelchair Accessible)
- Also broadcasted on internet at:
  - https://www.energy.ca.gov/business_meetings/index.html

# Thank You!

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