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In the Matter of:
Spray Sprinkler Bodies ) Docket No. 19-AAER-01
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PUBLIC HEARING

CALIFORNIA ENERGY COMMISSION
CEC BUILDING, IMBRECHT HEARING ROOM
1516 9TH STREET
SACRAMENTO, CALIFORNIA

TUESDAY, JUNE 18, 2019
10:00 A.M.

Reported by:
Peter Petty
APPEARANCES

STAFF
David Nichols, Supervisor, Standards and Outreach Unit
Sean Steffensen, Rulemaking Lead

PUBLIC COMMENT
Mary Anderson, Pacific Gas and Electric Company
Edward Osann, Natural Resources Defense Council
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MR. NICHOLS: This is David Nichols. I am a Supervisor with the Standards and Outreach Unit, a part of the Efficiency Division.

Thank you today for joining us for this public hearing. The agenda today will include some opening remarks. We will then go to Sean Steffensen, who will review some work on the rulemaking for spray sprinkler bodies, and then we will have public comments, and then we will adjourn.

A few housekeeping items. The restrooms are located outside of this room to the left and to the right. The ones on the left are over behind the stairs and in back of the elevators.

There are also water fountains available. If you have need of some refreshments, other than that, on the second floor there’s a small lounge with some vending machines.

Last, and we hope this doesn’t happen, in the case of an emergency, we ask that you evacuate the building. Please follow the staff
to the appropriate exits and we will convene at Roosevelt Park, located diagonally across the street from this building.

This public hearing today is pursuant to California Administrative Procedure Act, Government Code 11346.8. No Commissioners will be present. No decisions will be made.

Paper copies of the Initial Statement of Reasons, Notice of Proposed Action, proposed text, and documents incorporated by reference are available for review, public comment on proposed regulatory language and proposed Negative Declaration.

This public hearing is being recorded by a court reporter and on WebEx. All statements today become a part of public record.

Staff finds that the proposed spray sprinkler body standards are technically feasible, cost effective to the customers. Staff will consider comments from today and from the public comment period. Staff will propose 15-day language if any changes are proposed. Staff will seek adoption at a future Commission business date.

We welcome public comments in person and
online. If you are here in person, please step up to the podium and the microphone. Please push the button so the microphone turns green, that way you’re live. We ask that you also provide a sign-in, and for the court reporter, a business card and name the affiliation of the organization you’re with. A copy of your comments is appreciated but it is not necessary.

For those of you that are participating by WebEx, we ask that you use the raise-hand feature, Staff will call upon you, or you may type a comment into the chat box and it will be read into the record.

Phone-only participants, all lines will be un-muted for comment.

I want to reiterate today that this is a public comment period. Staff is not allowed to respond to the comments that are being made, although we are happy to answer questions about procedural acts that are going on right now and the status of where we are.

At this time, I’m going to turn this over to Sean Steffensen, who is our subject matter expert, and Engineer for spray sprinkler bodies.

Thank you, Sean.
MR. STEFFENSEN: Good morning. My name is Sean Steffensen. I’m a Mechanical Engineer in the Appliances Office here at the Energy Commission. Today we are having a public hearing on spray sprinkler bodies. It is Docket 19-AAER-01. Information discussed today is available on the Commission’s website, including these presentations. We will be available for comment until noon today, or until everyone is finished providing comments, so we will be here until noon today.

Here is a summary of events. Commission staff has sought public participation at many points over the past two years. We have published our analyses, held workshops to discuss our results, and reviewed and incorporated comments from stakeholders to create the proposal as is presented today. On this chart, we are nearing the end at the green box. Thank you for your participation.

Here is the rulemaking timeline. We have provided a Standardized Regulatory Impact Assessment to the California Department of Finance on November 20th, 2018. We posted the rulemaking documents at the end of April and
included the Notice of Proposed Action, the
Initial Statement of Reasons, and the proposed
regulatory language on April 26th, 2019. We
posted the California Environmental Quality Act,
or CEQA, the initial study and proposed Negative
Declaration at the beginning of May.

There was a 45-day comment period on the
rulemaking documents and a 30-day public comment
period on the CEQA documents. The comment
periods ended yesterday on June 17th.

We are at a public hearing today. On
August 14th, Staff will present this proposal and
any proposed changes for the adoption at the
Energy Commission business meeting. We’ll also
review any comments that we’ve received. The
proposed effective date is October 1st, 2020.

Staff has prepared an Initial Study of
Environmental Effects of the proposed statewide
minimum efficiency levels for spray sprinkler
bodies. Staff findings were that the proposed
standards would reduce future energy use by
reducing the water that must be pumped to provide
landscape irrigation. There is no significant
change to the materials or manufacturing for the
spray sprinkler bodies. The product lifetime
Because of the reduced electricity use in the future, there will be reduced criteria pollutants, greenhouse gases, and particulates from the generation of electricity by the fossil fuels. The proposed standards will improve air quality and result in reduced power plant operation and related facility emissions in California as compared to no standards due to the reduced need to pump water to meet landscape irrigation needs.

The proposed standards will reduce greenhouse gas emissions, reduce the consumption associated with similar reduction, due to the reduced water pumping. The proposed standards will have no impacts on the hazards and hazardous materials. And the proposed regulations may lead to an increased usage of metals or plastics already used in spray sprinkler bodies. The proposed regulations do not alter the way in which these materials are disposed.

Staff made a finding of no significance, meaning the proposed regulations do not have any potential for adverse environmental impacts.

The written comment period was Monday,
June 17th. No comments were received on this topic.

Staff will recommend that the Commission adopt the proposed Negative Declaration.

So why are we here? Here are some words from our Governor, Gavin Newsom.

“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.”

In May 2016, Governor Brown signed an executive order to instruct state agencies to help Californians adopt permanent changes to use water more wisely. State agencies came together to work together towards this goal. We documented our resolve and future actions through a final report to the governor. I’ll read the first paragraph of the final report to provide background for our proposal.

“The past five years have brought both historic drought and flooding to California, a reflection of the fact that California
California experiences the most extreme variability in yearly precipitation in the continental United States. The variability marks California’s water resources, not just year to year, but also season and location. Our water systems routinely move water hundreds of miles to serve large cities and immense agricultural productivity but also must help to sustain ecologically valuable river and estuary systems.

“Our population of nearly 40 million people is expected to grow and climate change is expected to bring rising sea levels, reduce snowpack, and alter precipitation patterns that will affect our ability to maintain water supplies and wildlife habitat. Widespread careful use of water will help us cope, no matter how conditions change. We must always be prepared for extreme fluctuations and use water wisely, eliminate waste, strengthen local drought resiliency, and improve agricultural water use efficiency and drought planning.”

The graph shown on this slide shows the drought conditions in California over the last 19
years. Although we’ve had a very wet winter, which is shown to the left-hand side of the graph, we need to prepare for the next drought. Widespread careful use of water will help us cope, no matter how conditions change.

So one solution to improve the water efficiency in California is -- would be to -- sorry, I’m off -- one possible solution would be to eliminate or sharply reduce the water applied to our landscapes, but landscapes are important and serve a vital role in our lives. Staff’s proposal will maintain the vibrancy of our landscapes by improving the efficiency of the way water is applied.

Improving the efficiency of the landscape irrigation represents an opportunity to save water in California. Landscape irrigation in urban areas in California represents an opportunity to save water in California. Landscape irrigation in urban areas in California consumes more than 1.1 trillion gallons of water per year.

Irrigation losses occur due to a variety of reasons. Over-irrigation, excessive water pressure, and leakage during non-operation
contribute to the inefficient irrigation of landscapes. The water is lost as it runs off the landscape, evaporates into the air, or drains beneath the reach of the plants’ roots, as shown in this figure. The losses may be significant, such as in the case of over-irrigation where Californians on average provide 50 percent more water than is needed. Widespread careful use of water will help us cope, no matter how conditions may change.

The staff proposal examines an opportunity to increase the water efficiency of the spray sprinkler body through pressure regulation. Pressure regulation addresses the issue of excessive water pressure by maintaining the optimum flow from the sprinkler, regardless of the water pressure. By eliminating excessively high water flow, over-irrigation will also be addressed.

The pressure regulating standard will be mandatory for all spray sprinkler bodies sold or offered for sale in California. The minimum performance level and test method will be identical to the U.S. Environmental Protection Agency Water Specifications for Spray Sprinkler.
Bodies Version 1.0. The proposal will require manufacturers to certify to the Commission the spray sprinkler bodies and also mark them.

Some background on the products. The term spray sprinkler body is not a lay term. As many of us refer to the picture shown as a sprinkler, a sprinkler head or a spray head, the use of the spray sprinkler body term is to embrace the language of the landscape professional and use a precise term for a specific product. I have a slide later that shows how the term is used to define the scope of the rulemaking.

A spray sprinkler body may be sold as a sprinkler body without the nozzle or it may be sold with the nozzle. Typically, a landscape professional will purchase the body and nozzle — sorry. Typically, a landscape professional will purchase the body and nozzle separately and pair them in the field, while a homeowner will purchase the body and nozzle assembled. Both ways of offering for sale are considered within the scope of the proposed regulation. The spray sprinkler body may be sold plain or with various
A pressure regulator will control the outward pressure while a drain check valve will prevent the irrigation system from draining through the irrigation system while the system is off.

At right are a couple facts regarding the spray sprinkler bodies.

The price varies based upon what options are included.

There are a lot of sprinklers in California; Staff estimates over 300 million.

The proposed scope includes all spray sprinkler bodies.

What is a spray sprinkler body? Here are some proposed definitions.

A spray sprinkler body means the exterior case or shell of a sprinkler incorporating a means of connection to the piping system designed to convey water to a nozzle or orifice. A spray sprinkler body means a sprinkler body that does not contain components to drive the rotation of the nozzle or orifice during operation and lacks an integral control valve. This term includes a spray sprinkler body that is a component of a
spray sprinkler.

A spray sprinkler means a device used to irrigate landscape that consists of a spray sprinkler body, any nozzle or orifice, and discharges water through the air at a minimum flow rate of 0.5 gallons per minute when operated at an inlet pressure of 30 pounds per square inch or more with the largest area of coverage available for the nozzle series using a full circle pattern.

Staff shows several examples of what is in scope which is above the green line and what is out of scope which is below the green line. The items that in scope from the far left is a pop-up spray sprinkler body with a retraction spring, also, a multi-stream/multi-trajectory spray sprinkler body, a pop-up without a retraction spring, that’s the green and brass one shown in the center, as well as flush-mount and non-pop-up sprinklers.

Staff believes that these devices will benefit from pressure regulation because each uses a spray nozzle. Staff proposes to exclude rotor sprinklers which are shown below, valve-in-head sprinklers, and hose-end sprinklers from the
Staff proposes to use Appendix B of the Water Specification for Spray Sprinkler Bodies. The USEPA went through a multi-year consensus-seeking process with stakeholders and verified the performance of the test method through university testing. Staff propose the test requirements will be identical to water specs. California is not recommending any modifications to the test procedure.

Shown on this slide is a picture of the test setup by the US EPA. Staff proposes three mandatory performance requirements identical to the water spray sprinkler body specification. The maximum flow rate at any tested pressure ensures that not any of the tested flow rates are too high. The average flow rate across all tested pressures ensures overall performance of the device. The average outlet pressure at the initial calibration point ensures that the device does not overcompensate and can provide a minimum outlet pressure to meet the minimum pressure requirements of the nozzle.

Staff’s proposal will set mandatory certification and marking requirements for spray
sprinkler bodies sold or offered for sale in California. All spray sprinkler bodies will be required to be certified and appear in the Commission’s Appliance Efficiency Database. I have listed the markings that must appear either on the unit or the unit’s packaging.

Additionally, there is a requirement to apply a mark that will be visible after installation to show pressure regulation. A marking like this could support compliance verification, say in the instance of a local agency that has adopted requirements from the Model Water Efficiency Landscape Ordinance for Pressure Regulation.

Technical feasibility means that products are technologically capable of meeting the proposed standard by the effective date. The University of Florida tested several brands of spray sprinkler bodies with the WaterSense Spray Sprinkler Body Test Method. The results show that spray sprinkler bodies are available now that will meet the proposed standard.

In addition, the US EPA’s WaterSense website lists over 100 models from 5 manufacturers as certified to meet the WaterSense
specification. The variety of products available from multiple manufacturers confirms compliant product availability and a lack of any intellectual property barriers that could otherwise prevent competition.

Staff applied the standard saving methodology used on previous rulemakings to calculate savings on a consumer and statewide level. Efficiency of current compliant products are held at the same level while noncompliant products are moved to exactly meet the minimum standard. Staff assumed product stock, duty cycles, and product lifetimes as provided by stakeholders and through Staff research.

How did Staff calculate the 18 percent saving’s rate as shown on this slide?

The plot shows flow rate versus input pressure based upon data collected by the University of Florida. As input pressure increases the flow increases. This is the blue line.

The orange line represents the proposed standard where pressure regulation controls the flow rate regardless of input pressure. The 18 percent savings, the green arrow, is the
difference in flow rates between the orange and blue lines at a pressure that represents the average statewide conditions for a spray sprinkler. Calculation details are shown in Appendix A and Appendix B of the Final Staff Report.

Cost effectiveness is a measure of the benefits to the consumers compared to the cost of the consumer due to requiring the appliance to be more water or energy efficient. The benefit to the consumer must exceed the cost to the consumer for the proposed standard to be cost effective.

To determine cost effectiveness, Staff must determine the value of the water or energy saved, the effect of the standard on the usefulness of the device, and the lifecycle costs to the consumer of the efficient device.

The proposal is cost effective. A compliant spray sprinkler body is estimated to cost $4.68 more than a noncompliant spray sprinkler body. And then net present value of the savings over a ten-year lifetime of the product is $27.23. Therefore, the lifecycle benefit is $22.55. The benefit-to-cost ratio is about six-to-one.
The proposal will deliver significant water and energy savings to California. The tables estimate for our first year, in-stock turn will turn over savings. Electricity savings comes from less water pumped by the water utilities to supply water to landscapes. The proposal will deliver nearly $900 million of cost effective savings to consumers through reduced water utility charges.

How much is 152 billion gallons of savings from this proposal? The illustration compares the savings from the proposal versus the recent Energy Commission Water Standards. The proposal will save more water than the 2015 Water Efficiency Standards for Toilets, Faucets, Urinals and Showerheads.

Overall, great progress have been made to reduce urban water use with the opportunity for much more. These savings represent over nine percent of the total urban water use, showing significant strives to reduce water use through efficiency.

How much water could be saved by this proposal? It’s roughly equal to all the water...
used to grow lettuce in California; that’s a lot of green.

Washington State, Vermont, Hawaii and Colorado have adopted similar spray sprinkler body standards. Maine, Massachusetts, Rhode Island and Connecticut have proposed similar standards. California is poised to become the fifth state to adopt water-saving spray sprinkler body standards.

So in conclusion, Staff finds that the proposed standards are technically feasible and cost effective to the consumer over the lifetime of the appliance.

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.

At this point, we are ready to move to the public comment portion of the hearing. We will start with people who are in the room, if you want to, come to the microphone and state your name and affiliation for the court reporter. If you could also give them a business card, that would be great. A copy of your comments is
appreciated but not required.
I guess, could I see a show of hands of who would like to make a comment? Okay.
Could I call upon Mary?

MS. ANDERSON: Hi. This is Mary Anderson from Pacific Gas and Electric on behalf of the California IOUs.

The California IOU CASE Team applauds the Energy Commission’s effort to adopt the standard which will provide massive benefits to the reliability of California’s water supply, climate protection, and energy and cost savings for California ratepayers. We also very much appreciate the extensive efforts of the Energy Commission to encourage stakeholder engagement, and the irrigation associations and other stakeholders highly collaborative efforts to adopt this standard.

The California IOU Cast Team has offered a few minor suggestions in our written comments and strongly support the proposed standard with or without further tweaks. The Statewide CASE Team agrees with the Energy Commission’s proposed approach of incorporating the WaterSense Spray Sprinkler Body Test Method by reference, adopting
a performance level in harmony with Version 1.0 of the WaterSense Specification for Spray Sprinkler Bodies, and adopting specific compliance requirements necessary for adopting a Title 24 standard. The requirements and compliance process are very clear.

Once again, we appreciate the Energy Commission’s efforts and we look forward to continuing on this process and adopting this standard.

Thank you.

MR. STEFFENSEN: Thank you, Mary.

May I call Ed Osann to the podium?


NRDC strongly supports the standard for spray sprinkler bodies as proposed in the 45-day language published by the Commission. Upon adoption, this rule will be one of the most important and consequential water efficiency measures ever undertaken by any state.

According to Staff estimates, this standard will reduce urban water use in a normal
year by approximately five percent within ten years, based on full stock turnover. Once more, the standard is highly cost effective. This is a remarkable achievement.

During the time that the Commission has been considering this proposal the EPA WaterSense Program has adopted a specification for SSBs, and four states have adopted statewide efficiency requirements for SSBs by statute, all based on the WaterSense specification.

We support the incorporation of the WaterSense performance specification and the test procedure into Title 20 in a manner that allows for test results to demonstrate compliance with the requirements of both programs.

Turning to remaining outstanding issues. We support the recommendations of the CASE Team for refinements to the 45-day language with the same proviso, that they can be accomplished without significant delay. In particular, section 2.3 of the utility comments regarding the sampling protocol, we believe that ensuring that test samples are selected from different production batches, which is to say date code lots, helps focus on the effectiveness
of manufacturer’s Q.A./Q.C. practices.

It’s been noted in the comments submitted by industry that the technology for pressure regulation has been available for some time; it’s not particularly new. So the real challenge in providing efficient products at this point is quality control. And a sampling protocol that incorporates and ensures that test samples are drawn from different production batches will better address issues of quality control.

Also, section 2.4 of the utility comments regarding changes of wording from percent difference to percent change to better reflect industry usage.

We urge the Commission to reject several industry recommendations that would depart from standard CEC reporting requirements and cede undue deference to the workings of the federal WaterSense Program going forward, in particular, proposals that would substitute evidence of WaterSense certification for reporting of test results to the CEC reporting database. We find the claims of undue burden and potential consumer confusion to be unconvincing. If testing is done the results can and should be submitted to the
CEC database. The database is a valuable resource for California utilities and consumers and, indeed, for other states.

Any proposals that would rely on prospective actions to be taken by or through the EPA WaterSense Program would be of concern. Some commenters have offered support for the January staff draft. As we noted in public comments at the time, an approach that relies on prospective actions of EPA and/or its contractors or performance certifying bodies is vulnerable to the vagaries of the federal budget process.

Authorizing legislation for the WaterSense Program in 2018 was a welcome and long-overdue step, but it does not ensure that an administration will not zero-fund the program, as the current administration has done, nor that congress will be able to provide continuous and steady funding, as was the case as recently as last January.

Finally, these few remaining areas of disagreement are important but narrow. We commend the irrigation industry, the irrigation association and its member companies for the constructive role they have played throughout
this proceeding and for bringing to market products that will achieve enormous water and energy savings for the state in the years ahead. And we note the crucial role of the CASE Team in providing supporting documentation for the staff analysis supporting this rule.

We urge timely adoption of the proposed rule.

MR. STEFFENSEN: Thank you. May I check to see if anyone else in the room would like to make a comment? Okay, seeing none, no more comments from the room at this point.

Let me move to comments from WebEx. Please use the raise-hand future. And you will be un-muted and you could type your name in the chat box and a comment or questions will be read into the record. In either case, state your name and affiliation. So either raise your hand or place a comment into the chat box. Okay. We are seeing no raised hands and we are seeing no chat box comments. Just pausing in case anyone is -- no? Okay.

We will now un-mute all lines in case there are participants who are audio only.
Please state your name and affiliation before making a comment. Okay, let’s -- oh.

All right, so hearing no comments at this point, we will remain here until noon.

But just to move along to the next slide in the presentation, Staff will review comments and possibly propose the adoption of the regulation and Negative Declaration at an Energy Commission business meeting. This may occur on August 14th beginning at 10:00 a.m. across from here in the Rosenfeld Hearing Room.

The presentation was docketed with the Energy Commission this morning and will go out on the Appliance’s LISTSERV and be available on the Docket 19-AAER-01.

We’ll check for any additional comments?

Thank you.

MR. NICHOLS: Thank you, Sean, for working with the spray sprinkler bodies and leading the regulation proposal.

We are going to keep the WebEx open until 11:00 -- I’m sorry, until 12 o’clock. If you have comments you wish to make, please notify us through WebEx. We will also, I believe, leave the phones un-muted. If you have comment and you
would like to make it, it will be going into the record.

At this time, for those that are present, you’re welcome to stay if you would like. Otherwise, you may consider this dismissed.

Thank you.

(Off the record at 10:35 a.m.)

(On the record at 11:59 a.m.)

MR. STEFFENSEN: Sean Steffensen with the California Energy Commission.

We are coming back to see if there are any comments in the room?

I would like to open it up to any comments on WebEx?

I’d like to see if there are any comments through the phone lines?

Seeing as there are no further comments, I would like to adjourn this meeting at 12 o’clock today.

Thank you.

(The workshop adjourned at 12:00 P.m.)
REPORTER’S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 20th day of June, 2019.

[Signature]

PETER PETTY
CER**D-493
Notary Public
CERTIFICATE OF TRANSCRIBER

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

I certify that the foregoing is a correct transcript, to the best of my ability, from the electronic sound recording of the proceedings in the above-entitled matter.

[Signature]

MARTHA L. NELSON, CERT**367

June 20, 2019