

# Standards recommendation

Docket # 09-AAER-1A

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**DOCKET**

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DATE \_\_\_\_\_

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# Proposed name for new standard

- ICE Rating which is an acronym for
  - Irrigation Controller Efficiency

# To develop a SER-type rating for irrigation controller

- Do NOT use IA's SWAT testing results
- Use the 315-page report on ET controllers outlined in the last meeting of the EC

# testing of irrigation controllers

	<u>Irr</u> adequacy	<u>Irr</u> adequacy	<u>Irr</u> adequacy	<u>Irr</u> excess	<u>Irr</u> excess	<u>Irr</u> e
test	minimum 6 zones	maximum 6 zones	average of 6 zones	minimum 6 zones	maximum 6 zones	ave o zo
<u>onic Enercon Plus</u>	100.0%	100.0%	100.0%	0.0%	3.6%	
<u>onic Smart Cloc</u>	100.0%	100.0%	100.0%	0.0%	1.1%	
<u>nserve ET9</u>	100.0%	100.0%	100.0%	0.0%	1.3%	
<u>se ET200e</u>	100.0%	100.0%	100.0%	0.0%	0.0%	
<u>ET System</u>	100.0%	100.0%	100.0%	0.0%	2.3%	
<u>SmartDial</u>	100.0%	100.0%	100.0%	0.0%	0.0%	
<u>aster RME Eagle</u>	100.0%	100.0%	100.0%	0.0%	0.0%	
<u>telligence</u>	100.0%	100.0%	100.0%	0.0%	0.0%	
<u>point/WeatherTrak</u>	100.0%	110.0%	100.0%	0.0%	0.0%	

Based on SWAT testing, the ICE rating of these controllers would be the same because

the SWAT protocol allows manufacturers to suppress results and retest until the manufacturer is happy with the results

the published results cover only 30 days even though the testing may run 6-9 months

SWAT only tests one controller that has been programmed and installed by highly technical people

Use the 515-page report that does  
NOT have the defects of SWAT  
testing

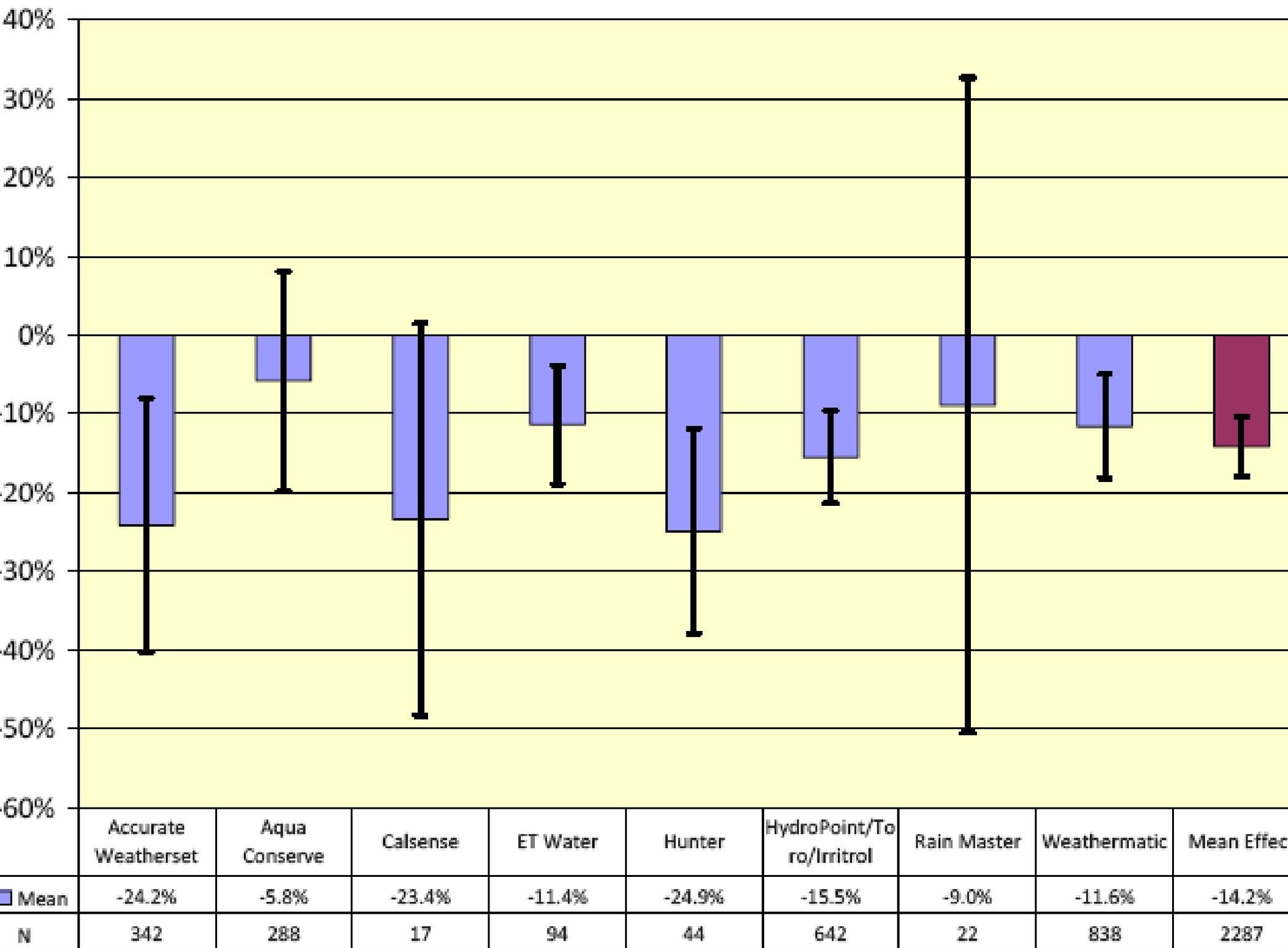
The report shows wide variances of water  
savings which is important to develop SER-  
type rating

covers more than one year after installation

covers 1000s of controllers, installed and  
programmed by homeowners and contractors

The Prop 13 funded controllers will be

monitored and water savings analyzed for 5



ES 1: Weather-normalized % change in water use by county

# To quickly develop and ICE rating using the above chart....

- give a ZERO rating to controllers with too large variance
- take the other average, divide by 25% and multiply by 100 to get ICE rating

# ICE rating of controllers

Manufacturer	% water savings from chart	ICE rating
Accurate WeatherSet	24.2	96
AquaConserve	variance too large	0
Calsense	variance too large	0
ET Water	11.3	45
Hunter	24.9	99
Hydropoint/Toro/Irritrol	11.5	46
Rain Master	variance too large	0
Weathermatic	11.6	46

# Proposed minimum standard

Since 2 manufacturers had ICE rating well above 90, I suggest a minimum ICE rating of 80

This minimum level can easily be supported by the evidence in the 315 page report

This high level is necessary to protect our water resources and to reduce embedded energy demand

# What are the deficiencies of the 315-page report and its sequels?

the 315-page report and its sequels only cover only 5 years and will not provide the going evaluation sought by the EC

the 315-page report and its sequel focus on retrofit of ET controllers and ignore new construction

the report compares pre- and post- installa

# Beyond Prop 13 funded studies

- the 315-report points the way beyond these studies
  - the report discusses Theoretical Irrigation Requirements (TIR) which can provide the basis for an ICE rating on new construction

# A suggestion to the EC

- there are privacy laws in California that restrict access to utility records
- the EC will need to seek changes in building codes or law to gain access to water consumption records

The people of California are to be “thanked” for funding this large field-study of irrigation controller efficiency (ICE).

The Energy Commission is lucky to have the first report of this field-study in-hand when it is faced with developing meaningful standards for irrigation controller efficiency (ICE).