

DOCKETED

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Tub Spout Diverters

Additional submitted attachment is included below.



June 16, 2017

Ryan Nelson
California Energy Commission
Docket Unit, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

RE: DOCKET NO. 17-AAER-09 TUB SPOUT DIVERTERS

Dear Mr. Nelson,

Kohler deeply values sustainable water use in our operations, the home and the community. As the leading U.S. brand in plumbing fixtures for residential and commercial applications, Kohler has worked consistently over the past decade to make it easier for Californians to use less water without sacrificing the performance they expect in their kitchens and bathrooms. We believe in responsible conservation of resources while keeping human health and safety a top priority for this and future generations. believe.kohler.com Water quality and availability are of utmost importance, especially here in California, and we take great pride in knowing that what we do makes a difference.

Kohler therefore appreciates the opportunity to provide comments to the California Energy Commission regarding Docket No. 17-AAER-09 Tub Spout Diverters. In addition to supporting the comments submitted by Plumbing Manufacturers International (TN#219174), we are providing two additional comments.

1. Human Health and Safety

If the tub spout diverter leakage requirements are lowered to zero, there will be no relief of operating pressure which means the column of water behind the diverter will have no way to escape. This will create a hydraulically locked situation and automatic reset diverters will be difficult to undivert. In this state, the diverter would not be able to reset itself to tub mode which is a condition in ASME A112.18.1, section 5.6.1.5.2. All plumbing codes, including California Plumbing Code, require the product be compliant with ASME A112.18.1. If the diverter remains activated, there is potential for thermal shock to the next user as the configuration will have the showerhead turned on first instead of the tub spout.

Additionally, a hydraulically locked situation is also likely to cause accelerated wear on the sealing member resulting in earlier leaking of the seal. Therefore regardless of the testing requirements, water would be wasted in the field.

Furthermore, based on the nature of plumbing systems and components, there is often residual water within the system and its components. This residual water needs to drain and the amount of water will not be reduced by changing the requirements of the tub spout diverter itself.

Although the CEC's database contains many tub spout diverters that appear to be zero leakage, the test measurements are rounded to the hundredths of a gpm. If the test concludes the gallons per minute is a number like 0.0001, it rounds to zero. Therefore, although there are many tub spout diverters listed in the CEC database as 0, there was most likely a small amount of leakage in order for many tub spout diverters to maintain compliance with the ASME standard. Lowering the CEC requirements to a zero leakage rate could potentially reduce the number of available skus for California residents while also requiring manufacturers to retest, and possibly redesign, products, costing the manufacturer and consumer time and money.

2. Water Savings

The performance of products is highly dependent on both water quality and the consumer's actions and we believe that going to a zero leakage rate will not provide the anticipated water savings.



As you may be aware, the EPA has issued an NOI for tub spout diverter leakage. In the NOI, the in-field leak rate used to 'illustrate the magnitude of water wasted by leaking bath and shower diverters' is extracted from statistically insignificant studies which were not substantial enough to represent the Nation or California. The studies referenced in the NOI represented only four small areas of the United States. Water quality varies greatly in and across regions and because poor water quality can have a negative impact on product performance, the assumption that these regions are representative of the entire U.S. cannot be upheld unless water quality reports were also analyzed or additional studies with various water sources are included in the EPA's substantiation.

The 0.29 gpm average leakage rate which the EPA has determined to be representative of the data from these studies is not complete. The Taitem study did not provide field data on diverters that leaked 0.1gpm or less and only provided data on those that leaked more than 0.1gpm. Because the overall mean is unknown, it would be irresponsible to assume an overall average from this study. The Fort Carson study was not available publicly and only the resulting data was provided in EPA's comments. Therefore, it should not be concluded that there is an average 0.29 gpm leakage rate, which is what the EPA has used to make the claim of annual 'water wasted for a utility serving 200,000 homes amounts to nearly 309 million gallons.' Also, the test method, installation, water quality, and other important parameters such as tub spout age were unknown in some of these studies. If a tub spout diverter that exceeded its useful life was included in these studies, or if the water quality was poor and therefore decreased the useful life of the product, it could skew the savings calculations.

Most importantly, we have found that the replacement rate of tub spout diverters as a singular product sku is an insignificant fraction of sales compared to that of a combination product which would contain a valve, showerhead or trim for example. This leads us to believe that the typical replacement rate of tub spout diverters is in line with a remodel. Therefore, even if a product meets the CEC requirements, if a consumer is using the product with poor quality water, it may leak and if so, we believe that consumers still will not replace them unless they are completing a full remodel. Furthermore, we have seen a significant increase in replacement of tub/shower combinations with shower only installations which reduces the potential water savings calculations for tub spout diverters as it is not a one-to-one replacement rate.

The result of our findings is that the assumed water savings is not accurate and we appreciate that the CEC will continue to study the realistic savings and weigh them against the safety concerns for users as well as the economic burden to manufacturers and consumers before considering any further reductions.

We will continue to champion the role of smart and sustainable design because this vision aligns with our legacy, our values and our business. We support meaningful change and support programs that can make a real impact, such as increasing the adoption rate of WaterSense toilets and removing older, high consumption toilets that waste millions of gallons a year. We look forward to continuing to work with the CEC as we believe true change requires collaboration from governments, businesses, nonprofits and the people of California.

Sincerely,

A handwritten signature in black ink that reads "Cambria McLeod".

Cambria McLeod
Staff Engineer – Codes and Standards
Kohler Company
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