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Jessica Bean
State Water Resources Control Board
1001 I Street
Sacramento California, 95814

Dear Ms Jessica Bean:

Thank you for the opportunity to comment on the proposed Emergency Water Conservation Regulation. Hunter Industries is committed to assisting the State of California in achieving the goal of a 25% reduction in the State's use of potable water. Hunter Industries provides water conserving irrigation solutions to a wide range of customers from residential to commercial, including golf irrigation applications. We would like to provide our comments and recommendations as a manufacturer with over 35 years of delivering innovative irrigation solutions of the highest quality, reliability, and performance. Our recommendation would be to revise the regulation of Section 863 (3) which "*prohibits irrigation with potable water outside of newly constructed homes and buildings that is not delivered by drip or microspray systems*" to include the addition of multi-stream, multi-trajectory (MSMT) nozzles, offered by Hunter (MP Rotator®) and several other irrigation manufacturers, as an overhead irrigation solution to efficient irrigation.

The regulation should both challenge and encourage the irrigation industry to explore new technologies as outlined by the Governor. Over the last several years, Hunter has led the way in the research and development of high efficiency MSMT nozzles that are designed to use multiple rotating streams of varying trajectories to deliver water precisely to the targeted area. They have been recognized by the irrigation industry and by major water agencies across the country as proven water saving devices and have been adopted into many of the water conservation programs for California. At the local level, many water agencies realize the contribution of these innovative products towards water conservation and provide financial incentives through rebates to encourage consumers to switch their existing traditional spray nozzles to MSMT high efficiency emission devices.

It is a common perception that overhead irrigation from pop-up spray heads is inefficient and water wasting. They have been the industry standard for irrigation of small turf and shrub areas for years. We have all seen situations where pop-up spray heads, used with traditional spray nozzles for irrigation, result in water runoff from the landscape. Water runoff is commonly attributed to high application rates (>1.5 inches/hour) of spray nozzles attached to these spray heads, delivering water at much higher rates than the soil infiltration or absorption rate. Improper use of operating them at high pressures and scheduling longer than required runtimes will result in water waste due to misting, evaporation, and runoff.

It is also a common misperception that drip irrigation, as mandated by the regulations, does not result in water waste from runoff. While drip emitters deliver water at low rates, it is not uncommon based upon the individual emitter flow rate and emitter spacing, for drip to deliver of water at application rates higher than 1.5 inches/hour, resulting in runoff.

The MP Rotator delivers water at a very low application rate of approximately 0.40 inches/hour which allows water to infiltrate a wide range of soil types at varying slope conditions that are commonly found throughout the State. They are also

designed to be matched precipitation, hence the name MP, allowing the irrigation designer to use the product over a wide range of landscapes with varying radius and arcs for all nozzles while delivering water over the area at the same rate. Many research studies have shown the strong performance of the MSMT nozzles and the potential water savings when switching from traditional spray nozzles to MSMT nozzles. Below is a link to an ASABE study:

http://nurserysprinklers.com/media/resources/MP_ASABE_Paper.pdf

Site studies are also available to provide examples of water saving projects using MSMT nozzles. The link below provides further information on one study:

<http://www.hunterindustries.com/site-study/mp-rotator-efficiency-goes-unmatched-usage-test>

Drip, microspray, and MSMT irrigation systems each have their own place within the landscape when used with proper irrigation design. The MP Rotator, in addition to its ability to efficiently deliver water, is much more durable and reliable than drip or microsprays. Installation and maintenance is less labor intensive, resulting in overall cost savings. Overhead irrigation also provides a visual of how much water is being applied to the landscape. As with a drip system, with the right products, regular maintenance, and proper scheduling, overhead irrigation can be an efficient means to deliver water to the landscape.

There are smart ways to water using pop-ups spray heads that will result in 25% or more water savings. For new construction, installing spray heads away from the edge of the hardscape, as recommended in the Model Water Efficient Landscape Ordinance Section 492.7 (S), will eliminate overspray. Using pressure regulated heads to optimize the pressure for the nozzle will allow for the highest distribution uniformity, reduce overspray, and eliminate misting. Adding check valves to the spray heads will eliminate low head drainage. Finally, instead of using traditional spray nozzles, installing MSMT nozzles with low application rates that match the soil intake rate will eliminate runoff.

In closing, in addition to drip and microspray, we recommend that the SWRCB add MSMT products to the regulation, providing the end user with the most efficient irrigation options available. Please feel free to contact me if you have any questions or need additional information.

Regards,
Kelsey Jacquard

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