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Subject: **Proposed Public Health Goal for Perchlorate in Drinking Water**

The undersigned agricultural organizations, whose members produce foods important to both the economic vitality of California and American public health, write today to oppose the establishment of a new and lower public health goal for perchlorate in drinking water and to question the rationale for a new PHG for perchlorate at this time. The decision-making process used by California Environmental Protection Agency's (California EPA) Office of Environmental Health Hazard Assessment (OEHHA) to determine that a revised PHG for perchlorate for the state of California is a priority is unclear given the abundance of well-substantiated scientific research supporting the current CA, U.S. EPA and National Academy of Science goals, recommendations and guidance on this compound.

We have previously commented on the state of science relating to perchlorate and urged OEHHA and the state to maintain the existing PHG of 6 ppb. OEHHA contends that it is necessary to decrease the perchlorate PHG from 6 ppb to 1 ppb based on a new position that infants are the most sensitive population. This departure from prior positions on the most sensitive population is based principally on one study which is not in concurrence with the preponderance of scientific evidence on the health effects of perchlorate all of which suggests a 6 ppb or higher level as more than sufficiently protective for all populations including infants.

While we have significant concerns regarding OEHHA's selective use and application of science, including anchoring major policy decisions to limited research, determinations of new sensitive populations that are counter to other widely recognized and accepted scientific reviews and application of uncertainty factors for which there is no articulated justification, we write this brief commentary to bring to light the focus on this issue from the perspective of the fresh produce agricultural community which may suffer severe "collateral" damage from an unscientific, arbitrary lowering of the perchlorate PHG.

For the agricultural community, the key question is what is driving OEHHA to reduce the PHG for perchlorate on incomplete science at best and why it is so urgent? California has one of the highest unemployment rates in the country, its businesses are choking in regulatory cost and

red tape and promulgating a new PHG which in turn will drive new regulation will only be detrimental to the state – this without any evidence that public health would be improved.

**Should a lower PHG for perchlorate and a corresponding reduction in the MCL be a priority for California?**

Perchlorate is one chemical in a class of chemicals called goitrogens, agents that interfere with the thyroid's absorption of iodide. Goitrogens affect a larger percentage of our population and many are present at far greater concentrations in California drinking water supplies than perchlorate. According to a 2007 study using monitoring data from the California Department of Health Services' Division of Drinking Water and Environmental Monitoring, perchlorate positive samples from drinking water wells were largely confined to two areas– mainly coastal southern California and secondarily around the inland central part of the state.<sup>1</sup> Managing risk by attempting to eliminate 100% of the risk associated with a minuscule potential source is grossly inefficient and furthermore, fails to provide the maximum public health protection. So again the question is, why perchlorate and why now?

The timing of this PHG release is also questionable given the U.S. EPA's own activity on this subject. Earlier this month in testimony before the U.S. Senate Committee on Environment and Public Works, Administrator Lisa P. Jackson testified that the US EPA “will start plans for controlling toxic contamination of the chemical known as perchlorate in our drinking water.” In light of this announcement from the U.S. EPA, we question the haste of developing a PHG for California before a national standard has been established. Waiting for the national standard to be established would no doubt provide critical information and data for estimating the public health risk in California, and avoid possible conflicts between the findings of the U.S. EPA and the resulting PHG that may create additional costs for the California taxpayers.

Another reason that we question the priority of a lower PHG for perchlorate at this time is that levels entering Lake Mead and the lower Colorado River system have been declining dramatically due to cleanup efforts by perchlorate manufacturers in the Las Vegas valley. According to the Southern Nevada Water Authority (SNWA), the perchlorate load entering Lake Mead in 1998 was 1,013 lbs/day and by 2009, it was reduced to 61 lbs/day. Perchlorate concentrations in drinking water throughout the lower Colorado River system have also decreased dramatically since 1998. In 1998 the SNWA reported an average perchlorate concentration of 9.6 µg/L which declined to 2.1 µg/L in 2009. Other drinking water providers along the lower Colorado River have reported similar decreased concentrations in recent years. For example, the average perchlorate concentrations at Whitsett Reservoir, the Colorado River source water for the Metropolitan Water District of Southern California were reported as 1.6

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<sup>1</sup> Kimbrough DE, Parekh P. 2007. Occurrence and co-occurrence of perchlorate and nitrate in California drinking water sources. *Journal AWWA*. 99(9). <http://www.awwa.org/publications/AWWAJournalArticle.cfm?itemnumber=30119>

µg/L as recently as 2009. Other California water boards have also been actively remediating perchlorate in recent years.

### **Repercussions of a Lower PHG for Drinking Water in the Agricultural Community**

As previously stated in both a January 5, 2004 letter to then Cal-EPA Secretary Terry Tamminen and in a September 15, 2010 letter to your agency following its announcement of the pending release of a risk assessment for perchlorate, our experience suggests that a lower PHG will become the benchmark for all other exposure pathways, starting with consumption of food. We fully understand that a lower PHG for drinking water does not equate to regulation of perchlorate levels in food. However, we are fundamentally concerned that this will set a precedent resulting in virulent impacts in the marketplace. Lowering the PHG for drinking water will lead to concern about levels in irrigation water and ultimately in food.

While the proposed perchlorate PHG is specifically targeted to drinking water, it has the potential to dramatically and adversely impact California and U.S. food supplies and costs. The draft document used to support the proposed PHG for drinking water states, “the PHG is a drinking water goal only; therefore, this document does not evaluate the safe levels of perchlorate in foods or other sources (Office of Environmental Health Hazard Assessment California Environmental Protection Agency, 2011, p. iii).” However, based on the California Safe Drinking Water Act of 1996, OEHHA was to, “consider exposure to contaminants in media other than drinking water, including food, air and the resulting body burden (Office of Environmental Health Hazard Assessment California Environmental Protection Agency, 2011, p. iii).” In the OEHHA draft risk assessment, it says, “food and water are the primary sources of exposure to perchlorate in most people.” The authors then go on to estimate the relative source contribution of perchlorate in infants from food to be 27%. If food is a significant contributor to perchlorate levels, the question remains why the California EPA did not work with the U.S. FDA on a joint evaluation of perchlorate in food prior to releasing the PHG. Instead, the California EPA chose to raise an issue with the potential to irreparably damage not only consumer confidence in the safety of the U.S. food supply – whether livestock, major crops or specialty crops – but also the livelihood of U.S. food producers in California and throughout the U.S. without examining how to address a potential hazard. Even more troubling is a statement made later in the document that, “these data demonstrate that food is the primary source of perchlorate for the general population (Office of Environmental Health Hazard Assessment California Environmental Protection Agency, 2011, p. 110).”

This assertion raises two questions: 1) What is the public health value of lowering the PHG (and subsequently the MCL) for perchlorate in drinking water if the primary source is food and 2) if drinking water, a secondary source of perchlorate exposure is regulated at the stringent level of

1 ppb, what effect will this have on the agricultural community since food is the primary source of perchlorate exposure?

Furthermore, the perchlorate levels in food are based on U.S. FDA research that according to the U.S. FDA were “exploratory surveys” where samples were collected in 2004 and 2005 from areas that are “biased high” and “not representative of the U.S. food supply” (USFDA). As noted in a review of the USDA’s 2004-2005 Exploratory Survey Data on Perchlorate in Food, “the FY04/05 exploratory survey data consist of 27 types of foods and beverages, representing only about 32 and 42 percent of the total diet for the U.S. population, ages 2 years and older and for children, 2-5 years, respectively.” Unlike the California EPA, the U.S. FDA did add a cautionary note for consumers who might read and attempt to interpret the information for their own uses. “Consumers should not view the perchlorate levels as an indicator of perchlorate exposure, or as the “risk” of eating certain foods. First, perchlorate levels alone do not equate to perchlorate exposure; calculating exposure requires consideration of both perchlorate levels, and the amounts of food that consumers eat. Second, estimates of perchlorate exposure take into account not single food items, but the wide variety of foods found in a range of diets. Third, the scope of the data is too limited to properly consider potential sources of variation in measured perchlorate levels, such as variability between different units or lots of food. Fourth, the impacts of perchlorate exposure will vary depending upon an individual's iodine sufficiency. Thus, the data were not generated to be representative of the perchlorate levels in the U.S. food supply but are only exploratory in nature (USFDA).”

As noted, sampling was highly selective and biased. Lettuce samples came mostly from two counties in California – Monterey and Imperial. Aside from the limited number of and times for collecting samples, no effort is made to take into account changes in perchlorate levels in water since 2005.

In the U.S. FDA’s FY 2004 sampling, perchlorate levels in lettuce, tomatoes, carrots, spinach, and cantaloupes were measured. In the FY 2005 study, sampling was expanded to include the original list as well as other fruits (e.g., apples, strawberries, and grapes), other vegetables (green beans and cucumbers), grains, seafood, milk and bottled water. While the sampling was expanded to include other regions of the country, fruit and vegetable sampling remained heavily concentrated in California and Arizona. While the U.S. FDA information is informative, there is no clear guidance for a farmer as to or whether their farm is in a particular area where water levels are affecting perchlorate levels their commodities. The consequences for the specialty crop farmer could be consumer concerns and a resulting move away from consumption.

## **The Potential Economic Impact of the Proposed PHG**

It is quite conceivable that concern about perchlorate levels in irrigation water will be another highly probable ramification of a lower PHG in drinking water. If the protective level in drinking water is set at 1 ppb then what about perchlorate in water used to irrigate food crops since food is the primary source of perchlorate? How will Cal-EPA address this issue? Who will bear the cost of remediation?

As previously stated it is reasonable to expect that a further lowering of the PHG will cause unwarranted public concern about the safety of implicated agricultural commodities similar to the food scare that resulted from the establishment of the current PHG in 2004. Concern about perchlorate levels in key agricultural commodities will not only have negative implications for the health and nutrition of Californians, but also bears the potential for unwarranted increased costs for the agricultural community. Fresh produce buyers frequently respond to increased public awareness or fears by imposing additional testing requirements on their suppliers as has occurred with microbiological testing due to recent well publicized foodborne illness outbreaks. These microbiological tests are usually conducted on sample sizes that are not statistically valid, and therefore are not a guarantee of public health protection. However, due mostly to pressure from large buyers, the agricultural community is forced into microbiological testing of finished products as a prerequisite requirement for business in today's marketplace.

Many in the agricultural community foresee an expansion of unwarranted buyer requirements to include chemical testing of finished product in the name of "food safety." Buyers often react to public fears with additional requirements that they impose on suppliers regardless of the scientific or statistical validity. These requirements are then used as a competitive advantage in the marketplace— a means to reassure the public that a particular brand or vendor has a "safer" product than their competitors.

The rising costs associated with significant increases in buyer requirements have come at the expense of the supplier without any ability to pass these costs on to buyers and consumers. The continued erosion of the small margin associated with the sale of raw agricultural commodities is not sustainable. The lowering of the PHG for perchlorate will likely increase significantly the financial burden on the agricultural community at a time when neither they nor the general public can tolerate increased production and food costs.

A corresponding result of the OEHHA proposed PHG is the potential for further deterioration in the economies of several counties in California. The leading agricultural counties in California, including Fresno, Tulare, Kern, Monterey, Merced, Stanislaus, San Joaquin, Kings and Imperial have some of the highest unemployment rates in the state. The lowest unemployment rate among the eight counties is Kern and its more than four percentage points higher than the

state average of 12.3%. The highest unemployment rate among all counties in the state is Imperial at 28.3%. Any consumer reaction to the release of this document implicating food as a source of perchlorate and ratcheting the PHG down from a consistent national standard has the potential of reducing U.S. fruit and vegetable consumption, particularly produce from the state of California – the source of most of the U.S. FDA’s FY 2004/2005 sampling data and the leading supplier of specialty produce. However, the impact would not stop with reduced produce purchases. In the Riverside County 2009 report the comment is made that, “leading agricultural economists agree that every dollar received by agriculturalists... has the financial impact of three and a half times that amount (Riverside County Agricultural Production, 2009).” If this is the case, then the repercussions will be felt far wider than the agricultural community alone.

We urge OEHHA and the State of California to maintain the existing PHG of 6 ppb for perchlorate in California. To do otherwise jeopardizes the largest agricultural economy in the country, erodes public confidence in their food supply, discourages the consumption of nutritionally important commodities such as fruits, vegetables and dairy products all without any evidence that public health would be improved in California or beyond.

Sincerely,

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