

**Comments on
California Regional Water Quality Control Board,
Central Valley Region Resolution No. R5-2004-X in Support of
Developing a Drinking Water Policy for the
Sacramento-San Joaquin Delta and Upstream Tributaries**

Comments Submitted by
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The CVRWQCB (Board) is reviewing a draft resolution authorizing the development of a Drinking Water Policy. It is important that the Board ensure through this resolution that the Policy properly consider the relative costs and efficacy of controlling total organic carbon (TOC) at its sources versus at domestic water treatment facilities. As discussed by Lee and Jones-Lee (2002), the source control of TOC in urban and agricultural stormwater runoff will be very difficult to achieve and quite expensive. To significantly reduce the amount of TOC in urban or agricultural stormwater runoff will require massive runoff treatment works. Before the CVRWQCB adopts a Policy that leads to a Basin Plan Amendment to control TOC in the Delta watersheds and in the Delta, there is need to critically examine the economic feasibility of undertaking TOC control at the sources, especially given that TOC is controllable at domestic water treatment plants. While such control increases the cost of drinking water treatment, the increase per capita for the population served by the treatment plant is likely to be small compared to the costs to the agricultural and urban dischargers of controlling TOC in stormwater runoff and irrigation tailwater discharges.

Further, the Drinking Water Policy and a resolution to authorize its development should make it clear that the control of TOC should focus on the control of source TOC that persists to a water supply intake. Lee and Jones-Lee (2003) discussed the significance of refractory and labile TOC as it relates to managing TOC sources for the Delta waters that are exported for domestic water supply purposes. Refractory TOC is that portion of the TOC present in source discharges that remains as TOC throughout its transport from the source to a domestic water utility's intake works. Labile TOC is that portion of the TOC that degrades in the transport from the source to the water supply intake and thus does not contribute to THM production. Both types of TOC are present in Delta waters. Thus far the DWR and CALFED/CBDA studies on TOC sources have failed to properly consider this issue – i.e., that part of the source TOC does not persist to a water supply intake. As part of developing a technically valid TOC control program the fate/persistence of TOC and its precursors from any source to a water supply intake should be determined in order to avoid attempting to control TOC that does not persist to a water supply intake. Failure to properly account for the labile TOC could result in large expenditures for control of TOC that has no impact on THM production.

Additional information on these issues is provided in Lee and Jones-Lee (2002, 2003).

If the CVRWQCB has questions on these comments please contact me.

G. Fred Lee

References

Lee, G. F. and Jones-Lee, A., "Review of Management Practices for Controlling the Water Quality Impacts of Potential Pollutants in Irrigated Agriculture Stormwater Runoff and Tailwater Discharges," California Water Institute Report TP 02-05 to California Water Resources Control Board/Central Valley Regional Water Quality Control Board, 128 pp, California State University Fresno, Fresno, CA, December (2002). http://www.gfredlee.com/BMP_Rpt.pdf

Lee, G. F. and Jones-Lee, A., "Issues that Need to Be Considered in Evaluating the Sources and Potential Control of TOC that Leads to THMs for Water Utilities that Use Delta Water as a Water Supply Source," Report of G. Fred Lee & Associates, El Macero, CA, May 27 (2003). http://www.gfredlee.com/TOC_update.pdf