

From: [Michael Cox](#)
To: [commentletters](#)
Subject: Comments - Proposed SWA Regulations
Date: Monday, July 24, 2017 1:33:14 PM



Dear Ms. Jeanine Townsend, Clerk to the Board,

These are my comments pursuant to the July 17, 2017 NOTICE OF PROPOSED RULEMAKING, TITLE 22. SOCIAL SECURITY, DIVISION 4. ENVIRONMENTAL HEALTH, CHAPTER 3 (Water Recycling Criteria) & CHAPTER 17 (Surface Water Treatment.)

I am a citizen commenting on behalf of myself and the public at large. I have an undergraduate degree in geology and a graduate degree in business. I worked as a soil and groundwater cleanup specialist for a couple of decades.

I appreciate the Board and Staff providing advance notice of the intended rulemaking. This is most helpful. Forgive me if my comments and concerns come too early in the process. If so, please let e know if, when, and to whom I should send them.

The Board and Staff, in their Notice, seem to appreciate that this is ultimately a consumer issue. Thank you. I hope that in assembling the necessary working group(s) Staff will include representatives of the public at large that do not have any particular special want agenda or on-going involvement in the associated politics and advocacy.

If appropriate at this time, questions and thoughts I have that immediately come to mind follow. Please forgive preaching to the choir. I am not well versed in your processes.

1. Has or will staff be directed to first focus on fact finding and then focus on drafting the language of the new rule(s)?
2. What outputs are being sought, and what is required organizationally and operationally to best serve the desired goals?
3. Is it the Board's hope that Staff will develop performance-based standards and incentives that enable individual PWS operators to do the right thing?
4. Will the Board direct Staff to do the fact finding necessary to consider the quality of the effluent prior to discharge into a reservoir used by one or more PWS'?

Adding the effluent to surface water impoundments creates dilution, and this might be an unintended incentive for lax characterization, monitoring, and control. Risk transfer might be unacceptable when operators can take shelter in "the State made me do it."

5. Will the tertiary treated water added back into the drinking water system be at all moments as safe as the normal drinking water without blended POTW effluent?
6. Will there be potential excursions and certain trace contaminants for which dilution will be relied upon for attenuation, either by design or by accident?
7. How will safety be assured in light of the fact that at any moment there could be a discharge upstream of the public sewerage treatment plant (POTW) that carries unusual and serious

consequences?

I think the public will always be understandably concerned with the safety of waste water reuse. It seems to me that one cannot overlook any real possibility, include the discharge of radionuclides, let alone pesticides and maintenance products. As made clear in the Notice, the main job of this effort will be ensuring safety. Thank you for this focus. To this I would add two important considerations that will require creative partnership-based approaches. First, it will be necessary to engage in outreach, including mainstream media advertising, to build public understanding and trust in the efficacy of the chosen administrative and engineering controls. Second, this same educational and behavioral outreach needs to help ensure that all sewer users, including residential users, are refraining from the discharge of pollutants that add significant risk to the wastewater reuse loop. Efforts are already visible in the form of messages to avoid practices such as dumping unused medicines and household cleaning and maintenance products down one's drains. I sincerely thank those responsible for the messages.

8. Will any funding be available for local advertising and education to the water users?
9. Does the Board anticipate additional testing requirements for initial characterization, and will those include an "open scan" for all possible manmade chemicals, or will the water reuse simply be tested according to the existing drinking water schema?
10. If testing will simply be in accordance with existing maximum contaminant concentrations, does Board and Staff feel the existing schema is adequate, and if so, why?
11. What directions will be given to Staff regarding the point of compliance, the place where compliance samples will be drawn for testing?
12. How can a public trust the water when it knows itself what tends to go down the drain and can only imagine what might go down the commercial POTW drain?

I fear the POTW effluent is a toxic soup like no other large-scale discharge from human effort. Everything and anything that can be flushed is potentially flushed. Treatment plant operators understand this well and use education and enforcement to try to prevent harmful discharges. These messages are currently largely oriented toward environmental protection. They will need to be reoriented to include consumer safety. The public will be facing something new. They can no longer flush anything down the drain with little thought to the consequences other than "oh well, it all ends up in the ocean anyway." We face a most difficult public relations issue.

The chemical analytes prescribed by drinking water law are probably based on assumptions built on the uptake of surface waters and ground water. Inserting treated sewerage into the equation requires a new look at the efficacy of existing characterization schemes, let alone control schemes. Who can say what the trace contaminants are, let alone whether or not they are safe individually and synergistically at the concentrations present at the end of a faucet? Another complexity concerns the point at which compliance is measured? It seems to me the best point is in the water intended for reconsumption prior to it being added back into any point in the drinking water system. If I were a PWS operator, I would advocate for testing to current MCLs after blending.

13. Should the Board direct Staff to look trace contaminants from purely a public health risk perspective, without consideration of economic factors?

It may be possible that POTW effluent reuse is economically impossible for many PWS' if they are not allowed to transfer risk to the water consumers as compared to the current supply.

14. What process (equation?) will be used to find acceptable compromise in the face of public risk versus PWS user cost?
15. Are their legally-prescribed limits to what Staff can do as far as balancing cost versus safety, and if so is there anyway the public can help eliminate some of the barriers?

Economic considerations will require weight in the process. Compromise will be necessary and will cause some degree of risk. If the public is made aware of legislative hurdles to a practicable solution, perhaps watchful persons can use that knowledge to approach the responsible Legislators in a positive way.

16. Does the Board and Staff anticipate language to try to curtail reuse being piped to some users while not to others?
17. How can we avoid this, but in a way that does not inadvertently drive cost for local PWS'?
18. How will local PWS realities be characterized prior to proceeding with drafting the language of new rules?

Operators need help to bring the effluent to a place where safety is a certainty at all times. The public needs to be educated to change their behaviors. What they flush needs to be compatible with the resource loop. Trace contaminants will be ever increasing if the loop is relatively closed, such as in arid rural and water-poor areas. Industrial and economic enterprises will also have to take on new roles and new controls, especially where rainfall is sporadic and sparse. Some areas will be far safer than others, on account of the constant diluting flush of new rainfall. Ironically, places with good rainfall have less need for returning POTW effluent to the PWS. I imagine that every PWS is different, and some are vastly different.

A public that is subsidizing water for disadvantaged communities might demand that they therefore deserve water without blended wastewater. Without a robust well-thought process design prior to rulemaking, perverse outcomes are likely. For example, it is possible that in the face of outrage from those footing the bill, the treated effluent might end up being piped to the disadvantaged areas alone.

19. Would the Board be willing to direct staff to release a written communication plan for public review and comment prior to undertaking rule making work?

Wording of the State rules that finally emerge for thirty-day review often seem to go far beyond anything presented in the public meetings. Please direct staff to design a communication and engagement plan for public review and Board approval. The work needs to be released for review and comment issue-by-issue, chapter-by-chapter, not all at once in a document of hundreds of pages underpinned by an additional hundreds if not thousands of pages of reference material. In my experience, this will help avoid the tender trap of conceptual discussions at public meetings often being a far cry from the language the finally emerges at the end.

20. Finally, does the Board intend to ask staff to be sure that the rulemaking drives toward local empowerment under a performance-based process?

From an organizational design perspective, the Board is attempting to influence many compartments toward the desired output of “safe recycled water” for human consumption. Trust must be inherent in the process in order for the output to be equally trusted. The safety will have to be built locally, PWS by PWS, based on deep and ongoing characterization of everything in the input and the participation of all residents and businesses to ensure the best possible output water added back into to the potable supply. Please do not prescribe simple enforcement and cost redistribution. We are all in the soup together, facing the same problems caused by the increased pressures of population and the associated massive movements of material resources. Due to the vast array of consumer and industrial products and activities, we face a situation where it is not unlikely one gallon of product discharged to the POTW in error and/or ignorance can cause a substantial risk to consumers of a billion gallons of associated effluent destined for return to the PWS. A state-wide program to allow for POTW effluent to be returned to PWS distribution is going to require real innovation.

Thank you for your time and your hard work on behalf of the environment and California residents everywhere.

Mike

Michael Cox
PO Box 786
Soquel, CA 95073-0786
(408) 644-7848 (cell)
(831) 462-1907 (home)
mercury_miner@netzero.net