



AIR ISSUES & REGULATIONS COMMITTEE
A Committee of the Bay Area Clean Water Agencies

Quarterly Meeting
September 2, 2020

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Agenda

- COVID-19: Regulatory Contingency Planning
- BAAQMD-BACWA Relationship
- BAAQMD Rule 11-18: Reduction of Risk from Toxics
- Toxics: AB 617 & AB 2588 Updates – Wastewater Sector Response
- BAAQMD Policy Clarification: PERP
- SB 1383: Statewide SLCP Reduction Regulations Status
- BAAQMD's Proposed Regulation 13 (Climate Pollutants)
- Member Updates/Open Discussion
 - Governor's EO (N-74-20): Emergency Generator Use
- Adjourn



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COVID-19

- BACWA Update
- CASA website: <https://casaweb.org/covid-19/>
- SWRCB factsheet on wastewater
- WEF biosolids factsheet
- Wastewater-based epidemiology – CDC to take leadership and serve as national repository

Fact Sheet

California's Recycled Water and Treated Wastewater Is Safe from the COVID-19 Virus

Existing stringent state standards protect public from COVID-19

Residuals and Biosolids Issues Concerning COVID-19 Virus

April 14, 2020

Amit Filmerov Brodsky, Anika Mead-Bond, Robert S. Renner, Robert Rubin, Mark D. Johnson, Robert K. Austin, Charles Orlin, James E. Smith, Dale Ables, Greg Weber, Sally Brown

To provide further clarification on the virus that causes COVID-19 infections, which is technically named SARS-CoV-2, and concerns about how it relates to residuals, sludge, and biosolids for water resource recovery facilities (WRRFs) as well as the wastewater sector at large, this paper includes a review of available data pertinent to the virus and its transmission as well as their biosolids. This update is intended to supplement the currently published article, "The Water Professionals' Guide to COVID-19: The Water-Safe Infectious Disease Outbreak Control (WSDOC) working group of the Water Environment Federation (Mead-Bond et al., 2020).

Executive Summary

There have been concerns and studies related to potential effects to public health associated with municipal sludge. The development of COVID-19 (the new coronavirus) in the public and environment from infectious disease (Renner et al., 2020; US EPA, 2020). The regulations have been increased and of Science National Research Council (NRC, 1998; NRC, 2002). As indicated by these reports and further literature review, no direct disease-related effects have been established for Class B biosolids. However, the COVID-19 virus is more susceptible to treatment (Figure 1), including heat. No additional protective equipment or measures are required for managing properly treated biosolids.

U.S. Environmental Protection Agency (EPA) Biosolids Classification

EPA defines Class A dewatered biosolids as those whose pathogenic organisms densities are reduced to below detectable levels which include Salmonella or less than 3 Most Probable Number (MPN) per 4 grams total solids. Enteric viruses to less than 1.0 plaque forming unit (PFU) per 4 grams and viable bacteria less than 1 viable bacterium per 4 grams total solids. Class A biosolids are achieved through a Process to Further Reduce Pathogens (PFPR). Class B biosolids can be achieved by showing that the sludge was treated by a Process to Significantly Reduce Pathogens (PSR) or that the treated biosolids contain less than 2 million Colony Forming Units (CFU) or MPN of fecal coliforms per gram of biosolids (dry weight basis). While pathogens are greatly reduced in Class B biosolids, they are not completely eliminated, therefore their use on public access, agricultural and grazing restrictions should on their use on land.

RECYCLED WATER BOARD
A CA WATER BOARD www.recycledwater.ca.gov

BAAQMD-BACWA

- Partners in...
 - Regulatory development
 - Innovative technology support
 - Funding support
- Mimic BAAQMD-RWQCB
 - Regularly meetings – Quarterly?
 - 1-2 topics per meeting



Rule 11-18: Risk Reduction from Air Toxic Emissions at Existing Facilities

- Purpose:
Protect public from toxic air contaminants at existing facilities
- Phased implementation based on cancer prioritization –
WWTPs in Phase 2 (starting in late 2020)
- **ISSUE:** Emission factors are outdated (based on old influent data) and may result in erroneously high Prioritization Scores
- If WWTP triggers Rule, it requires:
 - Health Risk Assessments (18-month process)
 - Risk Reduction Plan development (18-month process)
 - Implementation of Risk Reduction Measures (5 years + 5 years to implement)



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Rule 11-18: Risk Reduction from Air Toxic Emissions at Existing Facilities

- Actions to Monitor:
 - Final implementation schedule from BAAQMD (Phase I ongoing)
 - Watch for email from BAAQMD, will send data requests in quarterly batches – expect Phase II sites with Priority Score >100 to be first (starting end of 2020)
 - Plants expected to respond to data request (2-4 months)
- AIR Emissions Inventory Subcommittee
 - Need members to run the data collection and emissions inventory spreadsheet template
- Still need to address emission factors...



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Toxics: AB 617 & AB 2588 Updates

Two programs getting updated this calendar year...

- AB 617: Criteria Air Pollutant and Toxic Air Contaminant Reporting
 - Implements statewide annual reporting of criteria air pollutant and toxic air contaminant emissions data from facilities. It establishes new policies to improve emissions inventory data (which is critical to understanding the sources of emissions contributing to adverse health risks or other impacts at the local, regional, and statewide level).
- AB 2588: Air Toxics "Hot Spots" Program
 - Establishes a statewide program for the inventory of air toxics emissions from individual facilities, as well as requirements for risk assessment and public notification of potential health risks.



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CTR & Air Toxics: WW sector approach to determine relevant toxics for reporting

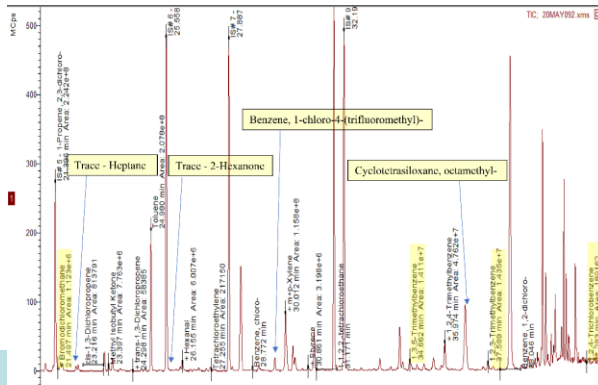
- Aligning implementation of CTR and AB 2588 amendments - both scheduled for adoption in November 2020
- Met with CARB staff July 29th and submitted comments August 19th
 - Confirmed most ≥ 4 tpy facilities will report 2022 data in 2023 (initial annual report), subsequent reports required annually commencing with 2026 data being reported in 2027:
 - **2023 report:** In absence of quantification methods, POTWs to report compounds as you were (business as usual) for 2022 data
 - **2027 report:** CARB stated wastewater sector has until 2026 to perform "two-step process" in collaboration with CARB and air districts to determine set of compounds to report.
 - Two-step process:
 - GC/MS Scan Process for Determining Sector-Specific Compound List
 - Quantification Process (once Sector-Specific Compound List is determined)



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Toxics: Initial Qualitative Screening

- 10 members performing inlet/outlet headworks foul air GC/MS scan
- LACSD results:
 - 10 tentative detections of new Appendix A-1 compounds
 - Detected compounds are not listed as carcinogenic by CARB – no OEHA cancer potency values assigned to these compounds



**No PFAS
detected.**



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CTR & Air Toxics: WW sector approach to determine relevant toxics for reporting – *CASA's Next Steps*

- Collecting qualitative screening/review results
 - Identify detectable AB 2588 Appendix A-1 compounds
 - Use EPA Method TO-15 followed by GC/MS to scan peaks against the NIST Mass Spectral Library (*data are not reportable*)
- To review detectable AB 2588 Appendix A-1 compounds to establish complete draft shortlist of wastewater-specific compounds
- Setting standing monthly call with CARB and CAPCOA, start in September
- CARB would like a white paper summarizing influent semi-volatile components (potential to aerosolize) and transformation processes that occur across treatment – CASA to research
- Summarizing details of sampling in PEEP study
- Drafting formal outline of wastewater sector's approach (based on meetings and PEEP study)



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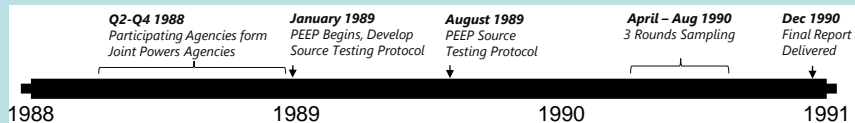
Toxics: 1990 Pooled Emissions Estimation Program (PEEP)

- Provided participating agencies a standard estimation methodology for determining air toxics emissions from their respective facilities.
 - 25 POTWs across CA formed a JPA
 - 18 unit processes (liquid, solid, gas)
 - 20 sites (managed as north and south)
 - 3 rounds of sampling over 5 months
 - Project duration: ~2 years (1989-1990)
 - Budget: \$2.5M (1990)
- Result: Emission factors for a short-list of targeted compounds determined by participating agencies and air district staff



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Toxics: 1990 PEEP Timeline Details



Compounds targeted:
20-25 Volatile Organic Compounds (VOCs) for raw wastewater, non-combustion processes, and combustion processes.

Processes targeted:

- Aerated Grit Chamber
- Primary Sedimentation Tanks
- Diffused Air Activated Sludge
- Mechanically-Mixed Air Activated Sludge
- Pure Oxygen Activated Sludge
- Trickling Filters
- Secondary Clarifiers
- Tertiary Filters
- Chlorine Contact Tank
- Dechlorination Facilities
- Dissolved Air Flotation Thickeners
- Gravity Sludge Thickeners
- Anaerobic Digesters
- IC Engines
- Digester Gas Fired Boilers
- Belt Filter Press
- Sludge Centrifuge
- Sludge Drying Beds



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PERP Equipment at Stationary Sources

- New BAAQMD Policy: Use of PERP Equipment at Stationary Sources (February 2020)
- PERP equipment that is used as a necessary part of a stationary source operation **does not qualify** for the permit exemption in Regulation 2, Rule 1, Section 105. The owner/operator of such PERP equipment must obtain a District permit.
- "Sewage treatment plants" specifically identified as affected facilities.



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SB 1383 (SLCP Reduction Implementation)

- 40% methane reduction by 2030 (relative to 2013 levels)
- Organic waste diversion from landfills (*includes biosolids, digestate, and sludges*)
 - 50% by 2020 (relative to 2014 levels)
 - 75% by 2025 (relative to 2014 levels)
- Next Steps
 - Analysis of the Progress Toward SB 1383 Goals released Aug 18th (Webinar held Aug 25th)
 - Adoption of regulations targeted for Q3 2020
 - State to enforce on jurisdictions January 1, 2022
 - Local jurisdictions to enforce January 1, 2024
 - Compliance by January 1, 2025



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SWRCB Co-Digestion Capacity Analysis

Purpose:

“Enable the Water Board to work with wastewater agencies, local governments, community members and other stakeholders to inform approaches to better coordinate and cost-effectively maximize organic waste diversion from landfills, co-digestion at wastewater treatment plants, and beneficial biogas and biosolids utilization.”



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SWRCB Co-Digestion Capacity Analysis

1. Estimated amount/spatial distribution of food waste in 2025 and 2030
2. Assessed existing excess capacity of digestion and key receiving/biogas/biosolids processes without rehab/modifications
3. Estimated capacity and investments needs for key processes to fully utilize digestion capacity and maximize co-digestion
4. Assessed GHG emission reduction potential through co-digestion
5. Case Studies: Investigated opportunities and barriers at small- to medium-sized facilities
6. Case Studies: Examined impacts on biogas/ biosolids production at two larger facilities with full-scale demonstrations
7. Appendices with analysis details, decision-making tool



[CWEA-CASA Webinar September 9th](#)



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6. Regional Hot Topic: BAAQMD Climate Pollutants Regulation



Rules and Regulations	GHGs	Odors	VOCs	Toxics
Regulation 13: Climate Pollutants				
Rule 13-1: Significant Methane Releases	CH ₄	Yes	Yes	Yes
Rule 13-2: Organic Material Handling	CH ₄	Yes	Yes	Yes
Rule 13-3: Composting Operations	CH ₄	Yes	Yes	Yes
<i>Rule 13-4: Wastewater Operations*</i>	CH ₄ , N ₂ O	Yes	Yes	Yes
<i>Rule 13-5: Hydrogen Plants</i>	CH ₄	Yes	Yes	Yes
<i>Rule 8-34: Solids Waste Disposal Sites*</i>				

* Future rule development efforts.

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Regional Hot Topic: BAAQMD Climate Pollutants Regulation



Rule	Next Workshop	Board Workshop	Notes
13-1: Significant Methane Releases	TBD	TBD	Tabled indefinitely to focus on source-specific rules.
13-2: Organic Waste Handling	None	2020?	Draft is focused on organic material handling: Material Recovery Facilities, Transfer Facilities, Chip & Grind Facilities.
13-3: Composting Operations	2020?	2020?	Draft language in development, not released.
13-4: Sewage Treatment & Anaerobic Digestion	TBD	TBD	BACWA requested involvement to provide input on draft language. Draft rule to consider biogas produced/collected, minimizing other pollutants, flare requirements, record keeping, reporting requirements, etc. BAAQMD is working with BACWA to collect baseline information to inform rule development and reviewing an unsolicited proposal.
13-5: Hydrogen Plants	TBD?	2020?	Focus on hydrogen production at petroleum refineries.
8-34: Solid Waste Disposal (Landfills)	2020?	2020?	Focus on methane from landfills – BAAQMD to align with state and federal requirements.

Rule Development Suspended due to COVID-19

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Regional Hot Topic: BAAQMD Climate Pollutants Regulation



- BAAQMD convening an Organic Recovery Technical Working Group (TWG)
- BAAQMD considering an unsolicited proposal for identifying / developing options for mitigating methane and VOC emissions
 - Anaerobic digesters and ancillary equipment
 - Other treatment processes (i.e., lagoons)
- Partnering with BACWA in effort to develop a baseline understanding of current practices and emissions



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Research: N₂O, CH₄, & NH₃ Emissions from POTWs



- Research by Princeton and UC-Riverside began in April 2020 – N₂O, CH₄, and NH₃ from WWTPs
- Looking for wastewater agency partners
- Requested presentation of the research and what partnering may look like



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N₂O & The Climate Registry (TCR)



The Climate Registry

- Technical Workgroup meeting this summer to discuss/determine how to handle/categorize N₂O process and effluent emissions
 - Recognize nutrient source driving these emissions is from the community a WWTP serves, not within the control of a WWTP
 - Consider showing N₂O emissions as a Scope 3 emission within a WWTP's inventory (vs Scope 1) – reflecting it's the responsibility of a community
- TCR performed a literature review to share with the Workgroup
- First meeting: September 3rd



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Member Updates/Open Discussion

- **Governor's EO (N-74-20): Emergency Generator Use**
 - **Permitting requirements** or conditions of certification adopted by the Energy Commission...as well as related permitting requirements adopted by local air quality management districts, that restrict the amount of power that a facility may generate,..., **are suspended**.
 - Any facility that operates...by Paragraph 1 (above) of this Order shall:
 - **Notify** the relevant local air quality management district, the Energy Commission, and the Air Resources Board of its actions w/in 48 hours
 - **Report** additional fuel use, additional hours of operation, and energy produced by that additional use and operation to the relevant local air quality management district, the Energy Commission, and the Air Resources Board w/in 30 days
 - Suspension (began August 16 and) shall expire at 11:59 pm on August 20



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Thank you!

Sarah Deslauriers
sdeslauriers@carollo.com
925-705-6404

Courtney Mizutani
cmizutani@sbcglobal.net
925-686-5533

