

# BACWA AIR Committee Update



SEPTEMBER 2020

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## Regulatory Development & BAAQMD Engagement

- Summary of FY'20 Activities
- Key FY'21 Activities
  - BAAQMD Proposed Regulation 13: Climate Pollutants
    - Rulemaking Status
    - Unsolicited Project – BAAQMD request for BACWA engagement
    - Organic Recovery Technical Working Group
  - BAAQMD Rule 11-18: Air Toxic Emissions at Existing Facilities
    - Implementation Working Group
    - Harmonization with CARB AB 617 and AB 2588 regulatory updates
  - AB 617 Criteria/Toxics Reporting & AB 2588 Air Toxics “Hot Spots” Program Updates
    - Amendments Status
    - Wastewater Sector Response

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# Summary of FY 2020 Activities

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## FY 2020 AIR Committee Activities Review

- Local / BAAQMD
  - Rule 11-18: Existing Sources of Air Toxics
  - Proposed Regulation 13: Climate Pollutants
  - Standard Permit Conditions
    - Digestion
    - Cogeneration
    - Organic Waste Handling
  - Portable Equipment Registration Program
- State / CARB / Other
  - COVID-19 – Regulatory Contingency Planning
  - CARB – AB 617/AB 2588 Air Toxics Program Updates
  - CalRecycle – SB 1383: SLCP Reduction Regulatory Development
  - SCAQMD Flare Rule 1118.1
  - CalOSHA’s Process Safety Management Standards
  - The Climate Registry – N<sub>2</sub>O Emissions from WWTPs
  - GHG Emissions from WWTPs Research (Princeton/UC Riverside)
  - PG&E Public Safety Power Shutoffs
  - Governor’s EO: Emergency Generator Use
  - SWRCB Climate Change Preparedness Survey

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# Key FY 2021 Activities: Engage BAAQMD

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# BAAQMD Regulation 13: Climate Pollutants



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

\* Future rule development efforts.

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# BAAQMD Regulation 13: Climate Pollutants

## Rule Development Suspended due to COVID-19



Rule	Next Workshop	Board Presentation	Notes
<b>13-1: Significant Methane Releases</b>	TBD	TBD	Tabled indefinitely, focus on source-specific rules first
<b>13-2: Organic Waste Handling</b>	TBD	TBD	Focus on organic material handling: Material Recovery Facilities, Transfer Facilities, Chip & Grind Facilities.
<b>13-3: Composting Operations</b>	TBD	TBD	Draft language in development.
<b>13-4: Sewage Treatment &amp; Anaerobic Digestion</b>	TBD	TBD	BACWA requested involvement to provide input on draft language and workshop report. 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.
<b>13-5: Hydrogen Plants</b>	-	Q3 2020?	Focus on hydrogen production at petroleum refineries.
<b>8-34: Solid Waste Disposal (Landfills)</b>	-	Q4 2020?	Focus on methane from landfills – BAAQMD to align with state and federal requirements.

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# BAAQMD Regulation 13: Climate Pollutants



- BAAQMD convening an Organic Recovery Technical Working Group (TWG) to inform Rules 13-2 and 13-3
- BAAQMD received an unsolicited proposal for identifying / developing options for mitigating methane and VOC emissions
  - Anaerobic digesters and ancillary equipment
  - Other treatment processes (i.e., lagoons)
- BAAQMD reached out to BACWA for review of the proposal – outcomes:
  - Provided feedback on/edits to proposed scope
  - Developing a scope for BACWA to summarize our baseline understanding of current best management practices and emissions

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## Other Climate Pollutant Efforts: Research and TCR Inventory Protocol Updates



- Research by Princeton and UC Riverside began in April 2020 –  $N_2O$ ,  $CH_4$ , and  $NH_3$  from WWTPs
- Looking for wastewater agency partners

- TCR Technical Workgroup to determine how to handle  $N_2O$  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  $N_2O$  emissions as a Scope 3 emission within a WWTP's inventory (vs Scope 1) – reflecting it's the responsibility of a community



The Climate Registry

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## 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:
  - 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
  - Asking members to run the data collection and emissions inventory spreadsheet template
- Still need to address emission factor updates...

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## Air Toxics: AB 617 & AB 2588 Updates

Two programs getting updated this calendar year...

- AB 617: Criteria Air Pollutant and Toxic Air Contaminant Reporting (CTR)
  - 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 (critical to understanding 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 (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.

### *CTR updates include:*

Requiring WWTPs to report full Hot Spots compound list (>600 compounds) instead of continuing business as usual.

### *Program updates include:*

Expanding Hot Spots compound list by over 800 compounds (>1,500 compounds total).

**ISSUE:** As written, CTR may require Wastewater Sector to test for and report ALL (>1,500) compounds listed under the Hot Spots Program!

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

- Working with CARB staff to confirm approach for determining a shortlist of relevant toxics to report
  - CARB confirmed WWTPs can report as they were (business as usual) in 2023 for 2022 data – due to absence of quantification methods for many existing and proposed compounds
  - CARB also stated wastewater sector has until 2026 to perform “two-step process” (in collaboration with CARB and air districts) to determine shortlist of compounds to quantify and report:
    - GC/MS Scan for Determining Sector-Specific Compound List
    - Quantification Process (once Sector-Specific Compound List is determined and quantification methods have been approved by CAPCOA and Scientific Review Panel)

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## CTR & Air Toxics: GC/MS Qualitative Screening

- 10 CASA members (includes 4 BACWA members) performing headworks inlet/outlet foul air GC/MS scan
- Preliminary results:
  - Only 10 tentative detections of proposed compounds
  - Detected compounds are not listed as carcinogenic by CARB – no OEHHA cancer potency values assigned to these compounds

### Tentatively identified compounds

Acetaldehyde	2-Hexanone (MBK)
Benzene	Hydrogen sulfide
Bromomethane	Isopropyl Alcohol
Carbon Disulfide	Methylene Chloride
Carbon Tetrachloride	Methyl Ethyl Ketone
Chloroform	Propylene
Chloroethane	Styrene
Chloromethane	Tetrachloroethene
Decahydronaphthalene*	Toluene
1,4-Dichlorobenzene	Trichloroethylene
Dichlorodifluoromethane (Freon 12)	1,2,4-Trimethylbenzene
Ethylene	1,3,5-Trimethylbenzene*
Ethylbenzene	m+p-Xylene
Heptane*	o-Xylene
Hexane	

\* - Proposed Appendix A-1 Compound

**No PFAS detected!**

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## CTR & Air Toxics: WW sector approach to determine relevant toxics for reporting – Next Steps

- Complete collecting/reviewing qualitative screening 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)
- Develop list of detectable compounds to establish draft shortlist of wastewater-specific compounds
- Continue monthly coordinating calls with CARB, CAPCOA, and waste sector representatives to get approval/acceptance of the wastewater sector approach
- Draft formal outline and content of wastewater sector's approach (based on meetings and 1990 PEEP study)
  - Summarize details of sampling in PEEP study
  - CARB would like a white paper summarizing influent semi-volatile components (potential to aerosolize) and transformation processes that occur across treatment

### *Estimated Two-Step Process Schedule:*

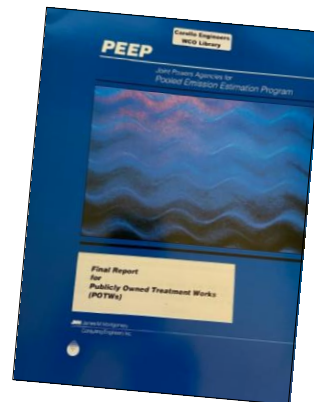
1. Establish Joint Administration Agreement (~12 months)
2. Process to retain consultant (~6 months)
3. Prepare & Submit Formal GC/MS Scan Proposal for approval (~6 months)
4. Perform GC/MS Scan at selected WWTPs (~6 months)
5. Draft & Submit GC/MS Scan report for approval (~6 months)
6. Draft & Submit Pooled Emissions Estimation Test Protocol for approval (~6 months)
7. Conduct pooled testing at selected WWTPs (~6-9 months)
8. Draft & Submit draft PEEP report for approval (~6-9 months)

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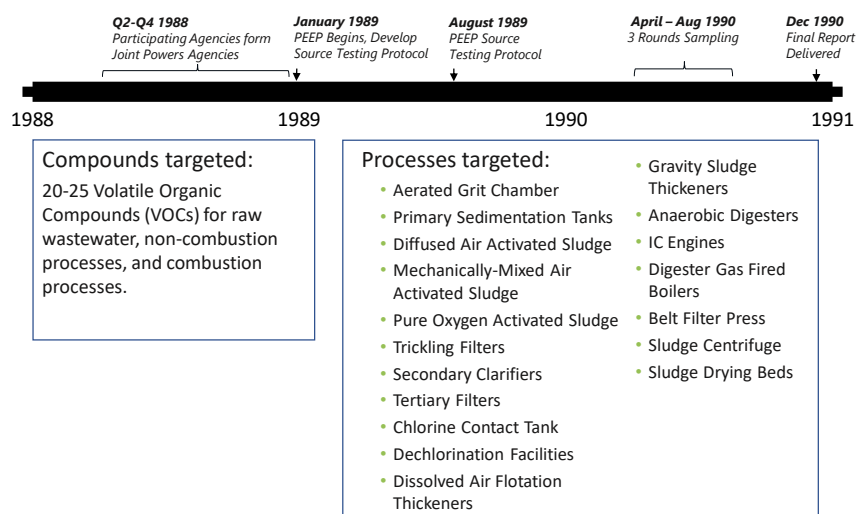
## CTR & Air Toxics: 1990 Pooled Emissions Estimation Program (PEEP)

- 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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### CTR & Air Toxics: 1990 PEEP Timeline Details



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BACWA Effort: Summarizing BMPs for AD's and baseline emissions

BAAQMD Staff: Greg Nudd, Carol Allan  
BACWA Effort:  
• Led Wastewater Sector Stakeholder Workshops with BAAQMD staff  
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BAAQMD Staff: Greg Nudd, Damian Breen  
BACWA Effort:  
• Participating in BAAQMD Rule 11-18 Implementation Working Group  
• Participating in CASA's statewide approach development

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Thank you!