California Council for Environmental and Economic Balance
101 Mission Street, Suite 805, San Francisco, California 94105
415-512-7890 phone, 415-512-7897 fax, www.cceeb.org

May 21, 2020

Mr. Gabe Ruiz
Manager, Toxic Inventory and Special Projects Section
California Air Resources Board
Submitted Electronically to ab2588ei@arb.ca.gov

Re: Proposed Amendments to the AB 2588 Emission Inventory Criteria and Guidelines (EICG) Regulation

Dear Gabe,

The California Council for Environmental and Economic Balance (CCEEB) appreciates the opportunity to provide these initial comments on the proposed amendments to the AB 2588 Emission Inventory Criteria and Guidelines Regulation. CCEEB and its members support the public "right to know" principle, which is at the very heart of the AB 2588 Air Toxics Hot Spots (ATHS) program. Furthermore, we recognize that the updates to the EICG are both timely and needed. Our intention with these comments is to assist the Air Resources Board (ARB) in developing an effective process to update and implement revisions to the guidelines, thereby meeting the goal of AB 2588 to measure exposures to toxic air contaminants (TACs or air toxics) and assess public health risks.

CCEEB also supports joint-agency efforts to harmonize emissions reporting programs at the thirty-five local air districts with the ATHS program and the Criteria and Toxics Reporting (CTR) regulation at ARB. Taken together, this represents a major overhaul of emissions reporting in California, and one that will require extensive coordination with regulated facilities, experts on air toxics and emission quantification methods, the local air districts, the California Air Pollution Control Officers Association (CAPCOA), and public stakeholders.

We offer the following main comments. Additionally, we provide specific comments, organized by section of the EICG and its appendices.

- Staff should discuss its "hierarchy of data" concept with public stakeholders and agency partners; our understanding is that this hierarchy organizes various types of emission estimation methods in terms of data certainty and quality. This hierarchy could then be loosely used to inform decisions about the EICG.

- A substance should only be added to Appendix A-I when emissions from a source can reliably be estimated using an established testing method or other method that results in a high degree of confidence. Other substances should be added to Appendix A-II and reported, but not quantified, until such time as accurate testing or measurement methods are available.

- Substances quantified and reported in Appendix A-I should only be used in risk screenings and assessments after OEHHA has established reference exposure levels and/or cancer potency risk factors. Additionally, ARB should review and update risk communication for the AB 2588 program.

- ARB must work with CAPCOA and the air districts to develop a practical and effective implementation schedule for both EICG and CTR amendments. The EICG expands the list of reportable substances by 158 percent, while CTR amendments would increase the number of facilities required to report by almost 49,000, or about a 37-fold increase affecting every region in the state. The brunt of this rapid expansion falls on the air districts, which must work directly with facilities on outreach, education, processing, and auditing of emission reports; changes to ARB reporting rules are, in effect, unfunded mandates to the districts.

- ARB should work with facilities to better understand and characterize whether and to what extent poly- and per-fluorinated chemicals (i.e. PFAS related) become airborne and result in public exposures via inhalation.

What follows is a more detailed discussion of these main points, as well as other comments and questions related to specific sections of the proposed rule amendments.

A Hierarchy of Data Could Help Show When Emissions Can be Accurately Quantified and Moved to Appendix A-1

Testing Methods Are Needed for Appendix A-1 Substances

Under the current proposal, ARB would introduce a high degree of uncertainty into the ATHS program by the inclusion of a large set of substances for which there are currently no testing or reasonably valid measurement methods. This raises a couple of key concerns. First, without testing and measurement methods, a facility has no way to confirm whether or not an individual substance is actually emitted through its operations and processes, or in what amounts, nor would it have ways to validate the accuracy of ARB-proposed default emission factors based on individual facility parameters. This seems to run contrary to Health & Safety Code Section 44340(c)(3), which requires that, “The measurement technologies and estimation methods proposed provide state-of-the-art effectiveness and are sufficient to produce a true representation of the types and quantities of air releases from the facility.”

We note that staff has not yet released proposed default emission factors, or background on how such values were derived and what data was used as the basis. Once this information is publicly available, facilities and stakeholders will need sufficient time to conduct independent scientific review and engage with staff on the technical merits of the proposal. However, given the large number of substances needing evaluation, it is doubtful that much progress can be made before rule amendments become effective. This leaves facilities in an untenable position of having to report emissions that they cannot substantiate, and with little knowledge of how default emission factors were formulated.

Our second concern is that, by adding several hundred new substances to Appendix A-1 before individual testing has been conducted, ARB could inadvertently mischaracterize and inflate risk from a facility. At best, this would dilute the effectiveness of AB 2588 public notifications (the Prop 65 effect, where people ignore seemingly ubiquitous warnings). At worst, it could cause undue panic despite no changes in actual emissions or exposures from a facility.

In order to address these concerns, and being mindful of time needed for technical review, **CCEEB strongly recommends that substances be added to Appendix A-II** until such time as ARB has developed guidance on testing and measurement methods for each individual substance being added to Appendix A-I. Default values being proposed for Appendix A-1 substances may be merely "best guess" estimates based on similar – but not the same – substances.[1][2] If, instead, ARB made better use of Appendix A-II, it could gather data on the prevalence and pervasiveness of individual compounds, and then work through the A-II list to prioritize and promote compounds to the full A-1 list based on sufficient review that properly characterizes emissions from a source. Regardless of how ARB ultimately decides how to treat the listings, CCEEB ask staff to clarify what process or criteria it generally uses to determine where to initially list a compound, and how and when it moves a compound from A-III to A-II, and then from A-II to A-I.

CCEEB would be pleased to work with ARB and other stakeholders on identifying ways to prioritize compounds and speed review of testing and measurement methods, so as

[1] In its letter to ARB, dated November 20, 2019, the American Chemistry Council cautioned that, "…individual substances within many of the groups proposed for listing vary significantly in their physical, chemical, and toxicological properties. Consequently, it is inappropriate, and scientifically indefensible, to make broad conclusions about the public health impacts of such a wide range of substances in the absence of specific information." See https://ww3.arb.ca.gov/srp/ACC_comments_112119.pdf.

[2] For example, default emission factors can be based on Material Safety Data Sheets (MSDS) provided by the manufacturer. However, MSDS data doesn't include all substances in a compound if < 1.0% (non-carcinogenic) or < 0.1% (carcinogenic). Thus, data may be missing. Also, an MSDS provides a range of toxicity, based on different applications. Facilities may not have enough information to determine where sources fall within a given range. Furthermore, MSDS data doesn't account for the synergistic effects of chemical mixtures. As such, this approach to emission estimates may not be adequate in all cases.

to help move these compounds quickly and efficiently from list A-II to A-I. Here, we believe the hierarchy of data could help inform this discussion. We also note with interest the "two-step" process described during the April 30 webinar (slide 37) – review of screening data resulting from this work could also be of use in establishing priorities for quantitative testing at upstream sources.

Finally, CCEEB recommends that ARB establish an explicit policy that describes the process it uses to determine functional groups for whole categories of compounds, including a discussion of how it will act to minimize and explain scientific uncertainties inherent to this type of approach. Specifically, ARB staff should explain how it screens potential groups or categories to determine volatility.

Risk Screening and Risk Assessment Must Be Based on OEHHA Evaluation

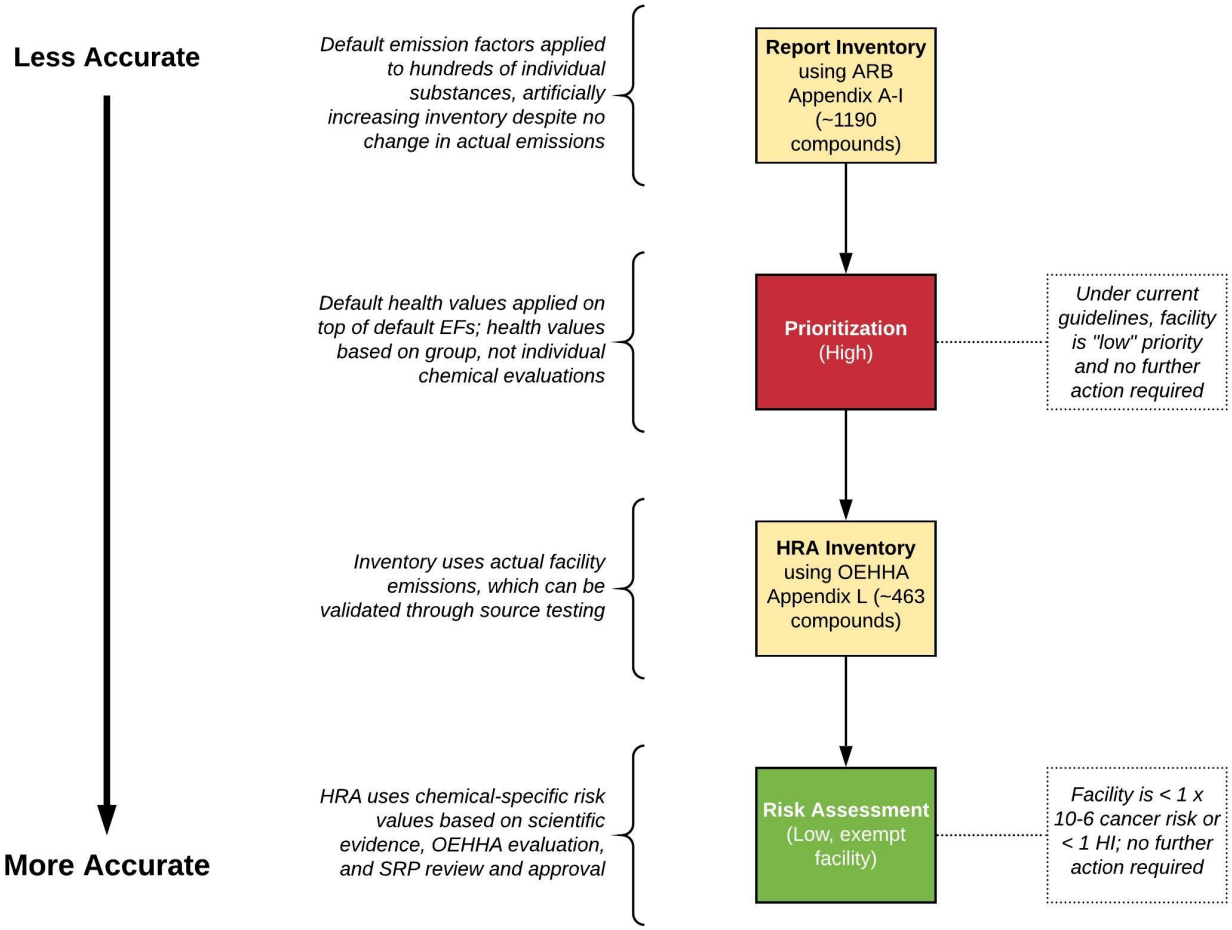
Staff has publicly stated that new compounds in Appendix A-1 should be used for AB 2588 facility prioritization scoring. However, health risk assessments (HRAs) would still use the former A-1 list (pre-amendment) following Office of Environmental Health Hazard Assessment (OEHHA) guidelines, including *Appendix L: OEHHA/ARB Approved Health Values for Use in Hot Spot Facility Risk Assessments*. This means prioritization and risk assessment would be based on two vastly different inventories. CCEEB disagrees with this split approach, as it is unnecessarily confusing, and could result in drastically different results that would be hard to reconcile.

Moreover, under the ARB proposal, prioritization would rely on large number of untested assumptions about the rate of emissions and associated health impacts. This in turn would decrease data certainty and inventory accuracy, which, until now, have been based on rigorous and transparent technical evaluations. CCEEB is concerned that this new approach could shortcut the scientific review and policymaking processes mandated by AB 2588. Additionally, Health & Safety Code § 44360(a) gives individual air districts, not ARB, responsibility for risk screening and prioritization. To address this problem, CCEEB reiterates our recommendation that ARB list new compounds in Appendix A-II until evaluations of individual chemical characteristics have been completed.

In terms of setting priorities for risk assessment, CCEEB notes that only about 52 percent (240) of Appendix A-I substances currently have health values established by OEHHA. The proposed amendments would add several hundred more to the existing list awaiting OEHHA review. CCEEB asks that ARB and OEHHA include, as part of the current rulemaking, a discussion of how the agencies will move forward to re-prioritize this backlog.

Finally, the risk communication problem of ARB's proposal warrants further elaboration. For example, looking at the scenario in the figure below, prioritization marks a facility as

"High" risk because default emission and health values were applied.[3] However, when the inventory is refined to include only those compounds that are demonstrably emitted by the facility, and risk is assessed using OEHHA cancer risk potency and health values, the facility is then shown to be "Low" risk and exempt from AB 2588. In between prioritization and risk assessment, however, both the facility and air district would have expended significant resources and several months on the HRA, only to arrive at a conclusion that could have been determined during the prioritization stage. Meanwhile, community members and interested public will have first been told the facility is a high risk, then later told it isn't and no further action is being taken. This would surely test public trust in a process that is already criticized for being difficult to follow and lacking transparency.



[3] Although an HRA could exempt a facility from further action under AB 2588, a facility initially flagged as a "High" priority during risk screening would be subject to the Criteria and Toxics Reporting regulation under § 93401(a)(3), meaning it could need to continue reporting Appendix A-1 compounds annually.

Implementation Schedules Must Be Based on Input from the Air Districts

It is critically important that ARB consider proposed AB 2588 amendments in parallel with its concurrent expansion of the Criteria and Toxics Reporting (CTR) regulation. The extent to which these two rulemakings impact air district programs and staff resources cannot be understated – these are massive program expansions, yet are largely unfunded mandates to the districts. Although ARB will be updating its own databases and procedures, the bulk of work happens at the air districts, which are primarily responsible for outreach, education, report processing and verification, tracking and record keeping, and, in many cases, compliance and enforcement. The districts are also responsible for risk screening and assessment, and for overseeing risk reduction plans if required – all based on ATHS reporting and inventories. Importantly, we note that reported emissions should not be equated with exposure, which is estimated separately as part of district prioritization and health risk assessment.

ARB's proposed expanded applicability requirements for CTR add about 48,700 new facilities to the annual reporting program, or a *3,746 percent increase*. Because of the interaction between these two rules, most of the "additional applicability facilities" would also be brought into the ATHS program.[4] Air districts will need to notify facilities of the new CTR and AB 2588 requirements, provide compliance training and technical resources to facility operators, overhaul data collection and verification systems, and reallocate engineering and enforcement resources, particularly during the early years as facilities get phased into reporting for the first time.

CCEEB acknowledges and greatly appreciates the deliberative and thoughtful process by which ARB is developing the AB 2588 amendments. However, it must be said that the timing could not be more unfortunate. Air districts are grappling with serious budget shortfalls due to the pandemic-driven economic shutdown and recession, and the State Budget crisis casts great uncertainty over future funding for air programs, such as AB 617 operational funds. At the same time, the districts are being called upon to support local and regional agencies in crisis response and community safety efforts, and many are facing their own stay-in-place and work-from-home orders.

Despite these challenges, ARB has made clear it does not intend to slow rulemaking and regulatory activities, so facilities and the 35 local air districts are forced to do much more, with much less. Given the gravity of these extraordinary times, CCEEB asks ARB to work closely with its district partners and CAPCOA on a practical and effective implementation timeline, which still allows for needed public participation in the process. ARB should also consider the time needed for facilities to understand and implement amended reporting requirements, such as source testing for new

[4] The incorporation of the CTR Table A-3 and the rather ambiguous proposal to create a new class/sector in Appendix E for facilities that emit > 4 tpy but <10 tpy suggests that the entire population of CTR § 93401(a)(4) could be brought into AB 2588. Currently, Appendix E only applies to facilities that emit > 10 tpy.

compounds[5], revisions to data collection, tracking and record keeping systems, and compliance training for employees and consultants. Between the CTR and AB 2588 changes, ARB will need to carefully plan its work and decide what is most important to move forward during the COVID-19 crisis.[6] CCEEB notes that regulatory timelines may need to be revisited.

Airborne Risks from PFAS Substances Need to Be Better Understood

Perfluoro and Polyfluoro compounds make up about 76 of the new compounds added to Appendix A-1, as well as nine of the functional groups, with each of the latter capturing wide swaths of compounds not individually listed. Use of per- and polyfluoroalkyl substances (PFASs) is ubiquitous in industry. However, not much is known about airborne risks from PFAS, whether chronic or acute.

Indeed, multiple studies suggest that as much as 99 percent of total exposure is from food consumption, i.e. oral ingestion.[7] Less clear is the extent of airborne risks to the public, or even what concentrations of PFAS emissions are in the ambient air. Moreover, research on PFAS emissions is most often focused on migration and deposition to groundwater and surface water supplies, rather than direct toxic exposure from inhalation of particles (i.e. as an air toxic), and the current state of work to develop methods to measure concentrations is "challenging."[8, 9] This calls into question whether these compounds are truly ready to be included in Appendix A-1.

CCEEB notes that if the concern is migration and deposition to soil and water supplies, rather than airborne inhalation, then regulatory responsibility lies with the Department of Toxic Substances Control (DTSC) and the state and regional water boards. The state water board has a multi-pronged effort to monitor and test for PFAS in public drinking water systems, and is conducting over 226 site investigations looking at potential source areas of PFAS. Similarly, DTSC has multiple PFAS activities underway as part of its Green Chemistry program, and OEHHA listed PFOA and PFOS under Prop 65, meaning that manufacturers of products must disclose the presence of these compounds.

For these reasons, CCEEB asks staff to better explain the scientific basis for adding PFAS compounds to the ATHS Program and Appendix A. We also recommend that both

---

[5] Additionally, ARB should also factor in the availability of testing laboratories and consulting firms that are qualified and credentialed to undertake new testing methods and protocols, especially as many subject to ATHS reporting could be in need of lab services simultaneously.

[6] Facilities are also strained at this time, with most facing unpredictable shutdowns or slowdowns, financial and supply chain uncertainty, and new worker and public health safety protocols, including stay-in-place orders that could impede employee availability for trainings and public meetings.

[7] See https://www.ourhealthyfuture.org/sites/default/files/pdfs/fs_-_pfas_exposure_routes.pdf.

[8] See http://pubs.awma.org/flip/EM-May-2020/driscoll.pdf.

[9] U.S. EPA is working towards validating quantification methods for PFAS in various environmental media, including ambient air and stack emissions. See https://www.epa.gov/chemical-research/research-and-polyfluoroalkyl-substances-pfas#2

individual compounds and the functional groups be moved to either the A-II or A-III lists until such time as testing or measurement methods are validated and available.

Additional Comments and Questions by Section

CCEEB offers these preliminary comments but reserves the right to expand or alter our positions following review of numerous draft documents and background materials that have not yet been released. These documents include but are not limited to draft proposed regulatory amendments to the EICG and its appendices, the final proposed lists for Appendix A,[10] default emission factors and health values for each new compound, the supplemental technical document, and the initial statement of reasons, which would include preliminary economic and environmental impact analyses.

Section XI: Updated Diesel Engine Requirements

CCEEB has no position on proposed Section XI updates at this time, as staff has not yet released details. Important will be standardizing a definition for a "stationary portable" engine and applicability criteria for "specified larger facilities." In general, CCEEB believes portable equipment should be reported by the owner/operator. CCEEB would be concerned if a facility were required to report portable equipment used onsite by contractors or subcontractors, since a facility would not have the requisite information needed to calculate emissions, nor would it be able to control otherwise compliant equipment operations by third parties.

In terms of district determinations that could bring engines < 50 hp into the AB 2588 program, CCEEB asks ARB to consider the need for consistency across statewide sources and facilities. This is a core objective of AB 617 and the CTR regulation; as AB 2588 and CTR rules are harmonized, we believe consistency should be the objective of both programs. CCEEB will wait to review ARB justification and concepts, as this background becomes available.

Section XI: Other Proposed Updates

ARB should post all past guidance documents and determinations to its AB 2588 web pages, indicating where changes are now being proposed.

As to the other proposed updates, CCEEB is unable to comment at this time as no details or specific language has been provided. We encourage staff to post draft documents as soon as possible, recognizing that (1) streamlining with other reporting programs can be a complicated process, especially with CTR requirements in flux, and (2) quantifying and assessing external factors, such as population sensitivity and cumulative impacts,

[10] At the April 30, 2020 webinar, staff indicated that A I-III are still being developed, and that as many as 100 additional substances could be added to the 900 already identified in the Master List of New Proposed Substances.

present new analytical challenges that may be outside the scope of AB 2588, which is meant to address facility-driven risks. Staff seemed to acknowledge AB 2588 limitations during the April 30 webinar; in response to a question, staff clarified that cumulative impact analysis was beyond the scope of AB 2588, but then suggested that the air districts could use such an analysis to remove exemptions under AB 2588. In general, CCEEB believes that updates to AB 2588 guidelines should be focused on only those activities directly related to the program.

Non-Regulatory Supplemental to Appendix A: Uses and Health Effects

CCEEB looks forward to reviewing the draft document when it is released.

Appendix B: Reporting Formats and Instructions

CCEEB agrees with the removal of requirements for hard copy reporting.

Regarding building height and other parameters to consider downwash, CCEEB believes this data is not needed to construct a facility emissions inventory and is not needed as part of reporting at this stage in the process. Facilities provide building and facility footprint information as part of air district risk screening and risk assessment, i.e., during estimation of *exposures* rather than *emissions.* To that end, CCEEB believes that guidance to multiply by 100 to account for downwash is excessive, especially in light of all other conservative estimates that go into a screening assessment. These types of assumptions could force facilities to conduct expensive and perhaps unnecessarily detailed HRAs. Regardless, we do not believe it is needed for emission reporting, as it adds an unnecessarily duplicative requirement to AB 2588.

Regarding new Limit of Detection provisions, CCEEB cannot comment at this time as no information has been yet been made public. We will do so when details are available. However, CCEEB notes that this could add another layer of assumptions and uncertainty to the program.

Appendix C: Guidance for Chemicals Expected by Process and/or Industry Sectors

CCEEB strongly supports work to update Appendix C, as it is important guidance for both AB 2588 and CTR reporting. Given the sheer volume of new compounds that facilities would be required to consider, updated guidance is critically needed to focus and streamline review. CCEEB asks staff to work closely with equipment/process operators and sector representatives to ensure the accuracy and feasibility of reporting under Appendix C guidance. CCEEB also asks that the staff report include a discussion of how a facility can safely use Appendix C to focus its inventory and reduce what would otherwise be an exhaustive and highly impractical compound-by-compound review of the full Appendix A-I list of ~1200 substances. We believe this work is one of the most important components of the amendments under development in this rulemaking.

Appendix D. Source testing requirements and alternatives

As with other sections, CCEEB awaits release of the details of updates to Appendix D. In general, we strongly support allowing pooled source testing and ask staff to clarify the process by which sectors may work with ARB and the air districts to develop consistent testing protocols and data approvals. CCEEB also agrees that the two-step screening process seems to be a viable option for sources that receive waste streams, until such time as laboratory testing is available. However, we reiterate our comments that substances should be initially listed in Appendix A-II until accurate testing and measurement methods are ready. We would also like to flag for further discussion the need for guidelines or policies on review and approval procedures for the use of historical test data.

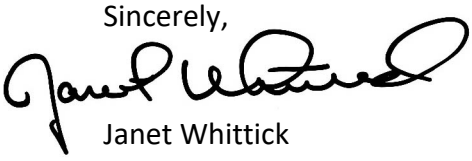
Appendix E: Requirements for Facilities < 10 Tons/Year Criteria Pollutants

It is unclear why staff is proposing a new "class/sector" for facilities emitting > 4 tpy but < 10 tpy. First, most facilities emitting > 4 tpy are subject to annual emissions reporting under the CTR regulation and would report using the same Table A-3 thresholds, so CCEEB does not understand why they need to be dually regulated under AB 2588. Additionally, air districts are free to require reporting from any facility deemed as posing a concern to public health. CCEEB believes the current risk-based approach used by the district – coupled with the annual reporting under CTR – is both flexible and health protective.

Separately, and related to proposed changes to Section XI, CCEEB suggests that staff include a procedural flow chart explaining the dual reporting requirements for diesel engines under both the CTR and AB 2588 regulations. The overlapping requirements and interactions between these reporting rules are confusing; an illustration with different examples would greatly aid understanding of compliance requirements.

We thank you and the staff at ARB for the opportunity to comment, and we look forward to working with you on the proposed rule amendments. Should you have questions or wish to discuss our comments, please contact me at janetw@cceeb.org or (415) 512-7890 ext. 111.

Sincerely,



Janet Whittick
CCEEB Policy Director

cc: Richard Corey, ARB
Kurt Karperos, ARB
David Edwards, ARB
Gregory Harris, ARB
Beth Schwehr, ARB
Tung Le, CAPCOA
Tracy Goss, SCAQMD
Pam Leong, BAAQMD