

Updated Informative Digest

Amendments to the Emission Inventory Criteria and Guidelines Report for the Air Toxics "Hot Spots" Program

Sections Affected: Proposed amendment to title 17, California Code of Regulations, Section 93300.5.

Documents Incorporated by Reference (Cal. Code Regs., tit. 1, § 20, subd. (c)(3)):

The amended regulation adopted by the Executive Officer incorporates by reference the following document:

- AB 2588 Air Toxics "Hot Spots" Emission Inventory Criteria and Guidelines Report (including all appendices), last amended August 18, 2021, incorporated by reference in Title 17, CCR, section 93300.5.

The following documents are incorporated by reference in the AB 2588 Air Toxics "Hot Spots" Emission Inventory Criteria and Guidelines (EICG) Report:

- San Joaquin Valley Unified Air Pollution Control District Rule 2201 "New and Modified Stationary Source Review Rule", section 3.0 "Definitions", as amended February 18, 2016 (section 3.39 definition of facility "Stationary Source"). Incorporated in Section X(14)(b).
- American Society for Testing and Materials (ASTM) Methods: D 6721-01 (Reapproved 2015), and D 4239-18e (2018), to determine chlorine content and sulfur content of coal and coke samples, respectively. E 776-16 (2016), and E 775-15 (2015), to determine chlorine content and sulfur content, respectively, in wood, refuse-derived, and other solid fuel, waste, or material samples. D 808-16 (2016), and D 129-18 (2018), to determine chlorine content and sulfur content in other fuel or material samples. Incorporated in Section IX(A)(2)(d).
- U.S. EPA Methods: Method 7471B, Revision 2, February 2007, Final Update IV to the Third Edition of the Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA publication SW-846, for mercury; Method 7010, Revision 0, February 2007, Final Update IV to the Third Edition of the Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA publication SW-846, for selenium; Method 6010D, Revision 5, July 2018, Final Update VI to the Third Edition of the Test Methods for Evaluating Solid Waste,

- Physical/Chemical Methods, EPA publication SW-846, for all other trace elements. Incorporated in Section IX(A)(2)(a).
- California Air Pollution Control Officers' Association (CAPCOA) "Air Toxics 'Hot Spots' Program Facility Prioritization Guidelines, August 2016", located at: <http://www.capcoa.org/wp-content/uploads/2016/08/CAPCOA%20Prioritization%20Guidelines%20-%20August%202016%20FINAL.pdf>. Incorporated in Sections IV(A)(1)(a) and X(24).
 - Office of Environmental Health Hazard Assessment (OEHHA) and CARB: Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values (September 2019), located at: <https://www.arb.ca.gov/sites/default/files/classic//toxics/healthval/consolidatedtable.pdf>. Incorporated in Appendix F(E)(7).
 - OEHHA: "Air Toxics Hot Spots Program Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments, February 2015", located at: <https://oehha.ca.gov/media/downloads/crn/2015guidancemanual.pdf>. Incorporated in Sections IV(A)(1)(b), IV(A)(1)(d)(i), IV(B)(1)(c)(i), X(18), and Appendix F(E)(7).
 - OEHHA: "Acute, 8-hour and Chronic Reference Exposure Level (REL) Summary", November 2019, located at: <https://oehha.ca.gov/air/general-info/oehha-acute-8-hour-and-chronic-reference-exposure-level-rel-summary>. Incorporated in Appendix F(E)(7).
 - OEHHA: "Technical Support Document for Cancer Potency Factors 2009" June 1, 2009. Available at: <https://oehha.ca.gov/air/crn/technical-support-document-cancer-potency-factors-2009>; and "Appendix A: Hot Spots Unit Risk and Cancer Potency Values", May 2019, located at: <https://oehha.ca.gov/media/CPFs042909.pdf>. Incorporated in Appendix F(E)(7).
 - OEHHA "Technical Support Document for Exposure Assessment and Stochastic Analysis Aug 2012", August 2012, located at: <https://oehha.ca.gov/media/downloads/crn/exposureassessment2012tsd.pdf>
 - OEHHA "p-Chloro- α,α,α -trifluorotoluene (p-Chlorobenzotrifluoride, PCBTF) Cancer Inhalation Unit Risk Factor Technical Support Document", August 2020, located at: <https://oehha.ca.gov/media/downloads/crn/pcbtfiur080720.pdf>. Incorporated in Appendix F(E)(7).
 - OEHHA "Notice of Adoption of Cancer Inhalation Unit Risk Factor for p-Chloro- α,α,α -trifluorotoluene", August 2020, located at: <https://oehha.ca.gov/air/crn/notice-adoption-cancer-inhalation-unit-risk-factor-p-chloro-aaa-trifluorotoluene>. Incorporated in Appendix F(E)(7).

- CARB’s HotSpots Analysis and Reporting Program (HARP), located at: <https://www.arb.ca.gov/our-work/programs/hot-spots-analysis-reporting-program>; specifically, the Air Dispersion Modeling and Risk Tool (ADRM) dated 19121 - May 1 2019, located at: <https://www.arb.ca.gov/sites/default/files/classic/toxics/harp/software2/harp2admrt19121.zip>, Emission Inventory Module (EIM) v2.1.4, August 7, 2020, located at: <https://www.arb.ca.gov/toxics/harp/software2/harp2eim20200807.zip>. Both incorporated in Appendix F(E)(7).
- AERMOD (19191) modeling system, August 2019, located at: <https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models#aermod>; specifically, the AERSCREEN (16216) model, December 2016, located at: <https://www.epa.gov/scram/air-quality-dispersion-modeling-screening-models#aerscreen>; BPIPPRM (19191) model, November 2019, located at: <https://www.epa.gov/scram/air-quality-dispersion-modeling-related-model-support-programs#bpipprm>; Incorporated in Appendix F(D).
- Health effects values for non-cancer risk assessment from the United States Environmental Protection Agency, Integrated Risk Information System (IRIS), last updated January 15, 2020, located at: https://cfpub.epa.gov/ncea/iris_drafts/atoz.cfm?list_type=alpha.
- California Emission Inventory Data and Reporting System (CEIDARS, version 2.5, September 2005), available at: <https://www.arb.ca.gov/app/emsinv/dist/doc/datadict.pdf>. Incorporated in Appendix G.
- CARB: “Appendix C – United States Environmental Agency Source Classification Codes,” (October 1, 2018)” published by CARB as part of the “Initial Statement of Reasons: Public Hearing to Consider the Proposed Regulation for the Reporting of Criteria Air Pollutants and Toxic Air Contaminants,” on October 23, 2018. Located at: <https://ww3.arb.ca.gov/regact/2018/ctr2018/ctrappc.pdf>. Incorporated in Section X(28).
- North American Industry Classification System Manual, 2017, United States Office of Management and Budget, located at: https://www.census.gov/naics/2017NAICS/2017_NAICS_Manual.pdf. Incorporated in Section X(21.5).

Background and Effect of the Proposed Regulatory Action

The amendments to the EICG support CARB’s continued commitment to protect all Californians from the harmful effects of air pollution, particularly from

facilities in communities of concern. Under this program, stationary sources are required to report the types and quantities of certain toxic substances their facilities routinely release into the air. More broadly, the Hot Spots program protects public health by collecting emission data, identifying facilities having the potential for localized impacts, ascertaining the health risks, and requiring that owners of significant-risk facilities notify nearby residents and ultimately reduce their risks below the level of significance.

The amendments will provide CARB and air districts with a better understanding of stationary source toxic emissions, enhance the public access to information on toxic pollutant emissions, and further reduce their impacts on public health by ensuring that many new and emerging chemicals of concern are reported. A more comprehensive understanding of emissions sources is necessary for CARB to meet its obligations under state and federal law. These include California Assembly Bill (AB) 2588¹, AB 197², AB 617³, the California Clean Air Act, the federal Clean Air Act, and CARB's broader obligation to protect public health via an understanding of the causes of, and solutions to, air pollution in the state.

The EICG amendments are part of a coordinated effort by CARB to improve inventories of airborne emissions from all sources within California, including stationary sources, on-road and off-road mobile source emissions, and area-wide sources (like consumer product emissions). The emissions data collected under the EICG will also support CARB's broader obligations under the California Clean Air Act and the federal Clean Air Act to protect public health via an understanding of the causes, and solutions to, air pollution in the state.

Objectives and Benefits of the Proposed Regulatory Action:

Government Code section 11346.2(b)(1) requires enumeration of the anticipated benefits of the regulatory action, including the benefits and goals of the authorizing statutes and other needs. The Air Toxics "Hot Spots" Information and Assessment Act requires affected facility operators in the State to report the types and quantities of toxic substances their facilities release into the air. Facility operators prepare and update emission inventory reports and submit these data to the districts for review and approval. The goals of the Act are to collect this emission information and make it available to the public, to identify and prioritize facilities having localized impacts, to assess health risks,

¹ Assembly Bill 2588, Connelly, 1987, California Health and Safety Code §§ 44300-44394.

² Assembly Bill 197, Garcia, E., Chapter 250, Statutes of 2016, amending and adding to California Health and Safety Code, Chapter 1.5 of Part 1 of Division 2 of Title 2.

³ Assembly Bill 617, Garcia, C., Chapter 136, Statutes of 2017, modified the California Health and Safety Code, amending § 40920.6, § 42400, and § 42402, and adding § 39607.1, § 40920.8, § 42411, § 42705.5, and § 44391.2.

and to notify nearby residents of significant risks⁴. After amendments in 1992, the Act calls for owners of significant-risk facilities to reduce that risk below the level of significance within specified timeframes.

Both the public and industry have benefited from the Hot Spots Program. The emission inventory compiled under this program provides essential data for the risk assessment and public notification processes. It provides data for public requests for toxics information and provides an essential tool for development of cost-effective risk reduction audits and plans. The emission data collected under this program are used to help prioritize the development of air toxic control measures, has helped identify source of air toxics not previously under evaluation, and has provided exposure information needed to prioritize control measures and develop regulatory actions. The reported data also serve as a baseline for quantifying progress toward reducing toxic emissions. Over the last three decades, facilities that pose a potential significant health risk to the public have been required to reduce their risks, thereby reducing the near-source exposure of Californians to toxic air pollutants.

Despite significant progress in reducing overall risk from facilities statewide, newer studies suggest an increase in lifetime cancer risk from exposures to air toxics in the early life stages. In addition, the number of chemical substances identified as posing chronic or acute health threats when present in the air has increased significantly. The proposed amendments will enhance the public access to information about releases of toxics into the air from a large number of facilities; provide more comprehensive toxics data for evaluating the health risks to nearby residents; and harmonize the reporting requirements with other reporting programs to create consistency and avoid duplication.

Also, as California continues to transition toward zero-emission vehicles, the relative contribution of emissions from stationary sources will continue to increase, and more comprehensive stationary source inventories will be needed to identify and evaluate appropriate mitigation strategies to reduce public exposures to harmful pollutants.

A key benefit of the proposed amendments will be to provide the public, community groups, scientists, air districts, CARB, and others with updated information about facilities that represent a potential health risk to nearby residents. The proposed amendments will not only expand the number of harmful substances that must be reported, but also increase access to information about the facilities that emit them. Improving the availability of emissions data at the local level will help to efficiently implement community air

⁴ (Connelly, 1987). Air Toxic Hot Spots Information and Assessment Act. Published September 1987. Accessed August 19, 2020. <https://www.arb.ca.gov/ab2588/overview.htm>

protection requirements under AB 617⁵, and may also be used to inform the development of CalEnviroScreen, which is a tool to identify and assess geographic areas within California that are disproportionately impacted by pollution.

Description of Regulatory Action

After an informal regulation development process that spanned nearly three years, staff initiated the formal public process to amend the EICG with the publication of a notice in the California Notice Register on September 29, 2020, and a notice of public hearing scheduled for November 19, 2020. This was preceded by substantial stakeholder outreach⁶ and two public workshops to address stakeholder concerns and solicit additional input⁷.

On September 29, 2020, staff released the staff report (or ISOR) for the EICG rulemaking, which includes a comprehensive description of the initially proposed amendments, rationale for the updates, the amended regulatory text, and additional information. The staff report is available on the CARB EICG regulatory documents page⁸, which also includes the notice and other documents.

On September 30, 2020, following release of the regulatory materials, staff hosted an additional public workshop to provide an overview of the proposed amendments and receive public input for consideration prior to the Board meeting.

Following release of the ISOR and a 45-day public comment period regarding the proposed amendments, on November 19, 2020, the Board held a public hearing to consider the proposed EICG amendments. Written comments were received from 42 individuals or organizations during the 45-day comment period, and oral comments were presented by 39 individuals or organizations during the Board meeting. At the conclusion of the hearing, the Board adopted Resolution 20-30, approving the adoption of the proposed amendments.

However, prior to finalizing the regulation, the Executive Officer was directed by the Board to make modifications to the proposed regulation, and to make

⁵ (HSC, 2017). Statutes of 2017; Chapter 136; Health and Safety Code Section 29607.1: Nonvehicular Air Pollution: Criteria Air Pollutants and Toxic Air Contaminants (AB 617). Accessed August 25, 2020.

https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB617

⁶ See Chapter X of the ISOR for complete information regarding outreach activities here: <https://ww3.arb.ca.gov/regact/2020/hotspots2020/isor.pdf>

⁷ Presentation slides and other materials for the EICG workshops are available here: <https://ww2.arb.ca.gov/our-work/programs/ab-2588-air-toxics-hot-spots/hot-spots-inventory-guidelines>

⁸ CARB Regulatory Documents for EICG: <https://ww2.arb.ca.gov/rulemaking/2020/hotspots2020>

any proposed changes available for public comment, with additional supporting documents and information, for a period of at least 15-days. Specifically, the Executive Officer was directed to (1) include revisions to the applicability criteria, (2) incorporate updates to the district phase-in schedule, (3) include refinements to sector phase-in timing, (4) incorporate updates to the toxic substances subject to reporting, and (5) include minor updates to the reporting requirements in the regulation as needed.

As directed by the Board, following additional consultation with air districts and stakeholders, staff proposed modifications to the originally proposed regulation in response to comments. On March 30, 2021, the modified regulatory text reflecting the changes was published to the California Notice Register and CARB's website for an initial supplemental public comment period with issuance of a "Notice of Public Availability of Modified Text". The notice describes each significant modification and the reasons for the modifications. The initial supplemental comment period started on March 30, 2021, and ended on April 14, 2021. Written comments were received from 16 individuals or organizations during the 15-day comment period. Staff evaluated the comments received and the Executive Officer determined that no further modifications to EICG were necessary.

In addition to the above notifications, per section 44(a), title 1, California Code of Regulations, and Government Code section 11340.85, the Notices and revised regulatory text were provided via the CARB list-serve topic "ab2588," or "AB 2588 Air Toxics Hot Spots," which includes, among others, those who testified at the public hearing, submitted comments at the hearing or during comment periods, or requested notification of any proposed changes. For completeness, list-serve notification was also provided to over 20 additional lists for industrial sectors and stakeholders that may potentially be affected by the regulation (approximately 20,000 recipients). Physical letters were also mailed to over 1000 recipients including facilities potentially subject to reporting, industry groups, and other interested parties⁹.

Summary of Amendments

The following summarizes the primary proposed amendments and 15-day modifications. The EICG updates are discussed more fully in the previously mentioned ISOR. Additionally, in Section IV of the FSOR we provide the formal comments received during the rulemaking process and staff responses to the comments. The most significant proposed amendments and 15-day modifications to the EICG include updates to:

- Expand the list of reportable substances to include new chemicals of concern

⁹ Refer to Chapter X of the ISOR for additional information regarding outreach activities.

- Add three types of chemical functional group categories to Appendix A-I
- Establish a phase-in schedule for reporting of newly added chemicals
- Update the list of chemicals associated with specific industry sectors and broad overarching processes
- Incorporate by reference the most recent OEHHA Risk Assessment Guidelines and CAPCOA Facility Prioritization Guidelines
- Add factors for district consideration in determining facility exemptions and reinstatements
- Include language to address prior guidance regarding on-site mobile source coverage and other technical interpretations
- Expand the reporting of building height and related parameters within zone of building downwash effects
- Require reporting of emissions from stationary portable diesel engines greater than 50 horsepower at specified larger facilities
- Add new source test requirements for waste management facilities, allowing for a two-step testing and review process
- Add new source test requirements for secondary aluminum processing
- Establish a stepwise protocol for determining acceptable types of screening air dispersion and other screening methods
- Establish a sector phase-in schedule consistent with proposed CTR Regulation amendments
- Include clarifying language that air districts have the authority to adopt more stringent requirements than those outlined in the EICG
- Add clarifying language that the provisions allowing air districts to consider population-wide impact assessments and the potential for cumulative risk from multiple facilities when considering exemption or reinstatement of a facility are voluntary
- Include the North American Industry Classification System (NAICS) code as a lookup reference for identifying facilities in sectors subject to emissions reporting
- Add Safety Data Sheets (SDS) as one of the document types that can be consulted to determine the presence of listed substances in a mixture or trade name product for the purpose of estimating emissions
- Delete lawn mowers, leaf blowers and chainsaws from the list of examples of non-motor vehicle mobile sources for which a facility may be required to report emissions, and add ships in the list of examples
- Clarify that air districts have the authority to require source testing of any process and/or device when there are no adequate emissions factors, existing source test results or other method available to determine emissions
- Create a phase-in group (Sector 3B) for facilities in the waste-handling sector that have been approved for conducting a two-step source testing process

- Withdraw the proposed requirement for recycling and material recovery facilities to conduct source testing
- Extend the implementation timeline for sources located in medium and rural air districts, changing the start year from 2023 to 2024
- Provide additional time for emissions testing for the waste and wastewater sectors, delaying reporting until 2028 data reported in 2029
- Added several individual per- and poly-fluoroalkyl substances (PFAS) to the list of chemicals that must be reported if they are emitted
- Revised the Effective Phase for several chemicals (the year when they phase in for initial reporting) to address concerns that quantification methods are not available for many substances
- Revised Appendix C to update the names of some chemicals for consistency with changes made to Appendix A and to update the lists of chemicals in several groups to incorporate chemicals added to Appendix A
- Revised Appendix D to add Note 7, which presents a “target list” of PFAS substances that wastewater facilities in the wastewater treatment sector must test for as they develop their source testing programs
- Revised Table E-3 to withdraw the proposal to add sector “0”, which would have extended applicability to facilities that emit greater than 4 tons per year of total organic gases, particulate matter, nitrogen oxides, or sulfur oxides

Comparable Federal Regulations:

Government Code section 11346.2(b)(6) requires CARB to describe its efforts to avoid unnecessary duplication or conflicts with federal regulations that address the same issues. As with the proposed EICG amendments, various provisions of existing federal regulations require the reporting of toxic air contaminants to U.S. EPA. For example, U.S. EPA established the Toxics Release Inventory (TRI) to track the management of certain toxic chemicals that may pose a threat to human health and the environment. Facilities in different industry sectors must report annually how much of each chemical is released to the environment (emitted to the air or water, or placed in some type of land disposal) and/or managed through recycling, energy recovery and treatment.

The TRI was created as part of a response to several events that raised public concern about local preparedness for chemical emergencies and the availability of information on hazardous substances. In 1986, Congress passed the Emergency Planning and Community Right-to-Know Act (EPCRA) to support and promote emergency planning and to provide the public with information

about releases of toxic chemicals in their community. Section 313 of EPCRA established the TRI Program¹⁰.

Although the proposed EICG amendments also require reporting toxic emissions, which does have some overlap with existing federal requirements, the requirements are not duplicative. The proposed amendments to the regulation are specifically designed to address the needs associated with evaluating air pollution impacts in disproportionately impacted communities, and comprehensively throughout California using consistent data. These needs cannot be met with data collected under existing federal regulations, which makes it necessary to implement the proposed EICG amendments.

The core reporting requirements for EICG are mandated by AB 2588 (Stats. 1987, ch. 1252; Health and Safety Code Sections 44300 through 44394), which required CARB to set in motion steps to collect emission data on air toxics emitted in California, to identify those facilities with unacceptable localized health risks, and to ensure nearby residents were notified of significant risks. Subsequent legislation (SB 1731) in 1992 established a mechanism to reduce significant risks to health protective levels. Also, H&SC section 39607(b)(2) established under AB 197 requires that the state board shall, "Inventory sources of air pollution with the air basins and determine the kinds and quantity of air pollutants...". Further, the cost of differing state and federal reporting regulations is justified by the expected benefits to human health, public welfare, and the environment. CARB programs to reduce public exposure to air toxics and the resulting health risks will be substantially supported using the data collected under the regulation.

Further examples of how data collected under existing federal programs is not sufficient to successfully fulfil the requirements of AB 2588, and why the proposed EICG amendments are necessary are provide below.

Facilities that report to TRI are typically larger facilities involved in manufacturing, metal mining, electric power generation, chemical manufacturing and hazardous waste treatment. Not all industry sectors are covered by the TRI Program, and not all facilities in covered sectors are required to report to TRI¹¹. In general, facilities reporting to TRI must meet three criteria: 1) be part of a specific industry sector; 2) employ 10 or more full-time equivalent employees; and 3) manufacture, process, or otherwise use a TRI-listed chemical in quantities above threshold levels in a given year.

¹⁰ (USEPA, 2017a). Toxic Chemical Release Inventory Reporting (TRI), Section 313 of the Emergency Planning and Community Right-to-Know Act. Accessed August 19, 2020. <https://www.epa.gov/toxics-release-inventory-tri-program/what-toxics-release-inventory>

¹¹ (USEPA, 2018b). *TRI Reporting and NAICS Industries*. Published March 19, 2018 <https://www.epa.gov/toxics-release-inventory-tri-program/tri-covered-industry-sectors>

The toxics data collected by TRI presents some limitations which necessitates that CARB establish a separate regulation and requirements to collect emissions data necessary to effectively implement the requirements of AB 2588. For example, the facility self-reported TRI data is not reviewed by CARB or the air districts for quality or completeness, as would be done for data collected through the Hot Spots program. In addition, TRI focuses on specific larger industry sectors, and does not include smaller sources such as small diesel engines, gas stations, print shops, and auto body shops, which are fully included under the EICG. The TRI data also does not explicitly collect diesel particulate matter as an individual toxic substance, which is of significant concern in impacted communities. Collecting criteria and toxics emissions data from small sources or facilities, which is then reviewed by air districts and CARB for public dissemination, is a critical element needed to understand and reduce the air pollution impacts in disproportionately burdened communities and statewide where warranted. For these reasons, the proposed amendments to EICG are necessary to successfully and fully meet the AB 2588 program and other needs, as previously mentioned.

The proposed amendments also do not conflict with any Federal regulations. For facilities that may be subject to partial overlap between the federal and CARB requirements due to the amendments, the impacts would be minimal, because the collected data will meet the requirements of both federal and state reporting programs, so duplicative data collection is not required. In addition, for the federal criteria and toxics emissions reporting programs, we anticipate that the proposed EICG amendments may enhance compliance and data quality, because of the requirement for more comprehensive and consistent emissions reporting, and the enhanced scrutiny of the collected air toxics data by CARB, local air district staff, and others.

An Evaluation of Inconsistency or Incompatibility with Existing State Regulations (Gov. Code, § 11346.5, subd. (a)(3)(D)):

During the process of developing the regulatory action, CARB conducted a search of any similar regulations on this topic and concluded that these regulations are neither inconsistent nor incompatible with existing State regulations.