

State of California  
AIR RESOURCES BOARD

**PUBLIC HEARING TO CONSIDER THE PROPOSED AMENDMENTS TO THE  
REGULATION FOR THE MANDATORY REPORTING  
OF GREENHOUSE GAS EMISSIONS**

**STAFF REPORT: INITIAL STATEMENT OF REASONS**

**DATE OF RELEASE: September 4, 2018**

**SCHEDULED FOR CONSIDERATION: October 25, 2018**

Location:

**California Environmental Protection Agency  
Air Resources Board  
Byron Sher Auditorium  
1001 I Street  
Sacramento, California 95814**

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## **Executive Summary**

California Air Resources Board (CARB or Board) staff is proposing to amend the Regulation for the Mandatory Reporting of Greenhouse Gas (GHG) Emissions (reporting regulation or MRR) to ensure the reported GHG data are accurate and fully support the California Cap on Greenhouse Gas Emissions and Market Based Compliance Mechanisms (title 17, California Code of Regulations, section 95800 et seq.) (Cap-and-Trade Regulation). Staff is also proposing amendments to ensure the data that are collected for CARB's other climate change programs are complete and accurate.

This staff report presents CARB staff's proposal to amend the reporting regulation. The staff report discusses the reasons for the proposed amendments and the potential impacts from the regulatory changes. The proposed amendments represent minor but necessary amendments to the current reporting regulation. The proposed changes clarify the reporting requirements necessary for submittal of complete and accurate emissions data reports, and add or clarify data elements for emissions and product data reporting necessary to support the Cap-and-Trade Regulation. The proposed changes include amendments to ensure accurate accounting for emissions from imported electricity resulting from transfers within the California Independent System Operator's (CAISO) Energy Imbalance Market (EIM), and to ensure that EIM Outstanding Emissions are reported by, and included as a compliance obligation for, those entities serving California load whose participation in the EIM results in those emissions.

## **Background**

The Global Warming Solutions Act of 2006 (Assembly Bill 32, or AB 32) requires California to cut GHG emissions to 1990 levels by 2020, to continue and maintain reductions beyond 2020, and to develop a comprehensive strategy to reduce dependence on fossil fuels, stimulate investment in clean and efficient technologies, and improve air quality and public health. AB 32 also requires CARB to adopt regulations for the mandatory reporting of GHG emissions in order to monitor and enforce compliance with CARB's GHG emissions reduction actions, including market based compliance mechanisms. In 2016, the Legislature passed and Governor Brown signed SB 32, which mandates at a 40 percent reductions below 1990 levels by 2030.

The reporting regulation was originally developed and adopted by CARB in December 2007. In December 2010, the Board adopted amendments to the reporting regulation in order to harmonize with the GHG reporting requirements of U.S. EPA, to support California's Cap-and-Trade Regulation, and to ensure consistency with the Western Climate Initiative reporting structure.

In September 2012, the Board adopted amendments to the reporting regulation in order to continue harmonization with U.S. EPA, as well as add conforming definitions to the Cap-and-Trade Regulation and the Cost of Implementation Fee Regulation (COI). In September 2013, the Board adopted amendments to clarify the reporting requirements,

support the Cap-and-Trade Regulation, and other updates. In September 2014, the Board adopted amendments to clarify the reporting requirements, integrate the COI reporting requirements, and collect additional information to support CARB's various climate change programs, such as the statewide GHG emissions inventory.

The sixth round of amendments were made in 2016 to support the Cap-and-Trade Regulation and harmonize with the U.S. EPA Clean Power Plan reporting and U.S. EPA rule amendments.

Since the Board's 2016 action, CARB staff has identified additional requirements and clarifications to the California regulatory requirements that are needed to support the Cap-and-Trade Regulation and further clarify the 2016 amendments.

### **Objectives of the Proposed Amendments**

CARB staff has proposed amendments to the regulation in order to:

- Support California's Cap-and-Trade Regulation to ensure consistency with the calculation of compliance obligations
- Ensure that reported GHG emissions and product data are accurate and complete in order to support California's GHG reduction programs, including imported electricity emissions from the California Independent System Operator's (CAISO) Energy Imbalance Market (EIM)

The proposed amendments to MRR do not change the overall reporting structure. These proposed amendments improve upon, clarify, and add to the existing requirements.

## Overview of the Proposed Amendments

Table ES-1 provides a summary of the key amendments proposed to the regulations. More complete descriptions of the proposed amendments are found in the succeeding chapters of this report.

**Table ES-1: Summary of Proposed Regulatory Amendments to the Regulation for Mandatory Reporting of GHG Emissions**

Topic/Sector	Proposed Regulatory Updates
<b>General</b>	<ul style="list-style-type: none"><li>• Minor updates for typographical errors and clarifications that do not materially affect the reporting requirements</li><li>• Minor definition updates and additions, as needed</li><li>• Clarify cessation provisions for reporting and verification</li></ul>
<b>Product Data</b>	<ul style="list-style-type: none"><li>• Product data reporting clarifications for dairy production to align with current reporting applicability</li></ul>
<b>EIM Purchasers</b>	<ul style="list-style-type: none"><li>• Include reporting requirements for EIM Purchasers to ensure accurate accounting of emissions from electricity imports within the EIM, and assign a reporting obligation to the entities serving California load whose participation in the EIM results in imported electricity emissions</li></ul>

## Staff Recommendation

Staff recommends the proposed amendments to the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions to continue to support the Cap-and-Trade Program through the reporting of complete and robust GHG emissions data, to harmonize the reporting requirements for MRR and the Cap-and-Trade Regulation, and to continue supporting the statewide GHG emissions inventory. Staff recommends that the Board approve the amendments to the regulation, as proposed.

## I. INTRODUCTION AND BACKGROUND

The Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (reporting regulation or MRR) was developed pursuant to AB 32, and first adopted by the California Air Resources Board (CARB or Board) in December 2007 (CARB MRR 2007). In December 2010, CARB adopted substantial amendments to the original regulation to harmonize with the U.S. Environmental Protection Agency (U.S. EPA) federal mandatory GHG reporting requirements contained in title 40, Code of Federal Regulations (CFR), Part 98; to support the California Cap-and-Trade Program; and to align with the Western Climate Initiative (WCI) reporting structure. These amendments became effective on January 1, 2012.

CARB adopted amendments in 2012 to continue alignment with U.S. EPA, further support the Cap-and-Trade Program, the COI Fee Regulation and the statewide GHG inventory. These amendments became effective January 1, 2013. Further amendments were made in 2013 to clarify the reporting requirements and support Cap-and-Trade Program needs which became effective on January 1, 2014. Additional amendments were made in 2014 to clarify the reporting requirements and support Cap-and-Trade Program needs which became effective on January 1, 2015. The sixth round of amendments were made in 2016 to support the Cap-and-Trade Regulation and harmonize with the U.S. EPA Clean Power Plan reporting and U.S. EPA rule amendments.

The full regulatory record and background for these six previous GHG reporting regulation rulemakings is available here:

<http://www.arb.ca.gov/regact/2007/ghg2007/ghg2007.htm> (CARB MRR 2007)

<http://www.arb.ca.gov/regact/2010/ghg2010/ghg2010.htm> (CARB MRR 2010)

<http://www.arb.ca.gov/regact/2012/ghg2012/ghg2012.htm> (CARB MRR 2012)

<http://www.arb.ca.gov/regact/2013/ghg2013/ghg2013.htm> (CARB MRR 2013)

<http://www.arb.ca.gov/regact/2014/ghg2014/ghg2014.htm> (CARB MRR 2014)

<http://www.arb.ca.gov/regact/2016/ghg2016/ghg2016.htm> (CARB MRR 2016)

CARB staff has proposed amendments to the regulation in order to:

- Support California's Cap-and-Trade Regulation to ensure consistency with the calculation of compliance obligations
- Ensure that reported GHG emissions data are accurate and complete in order to support California's GHG reduction programs, including imported electricity emissions from the California Independent System Operator's (CAISO) Energy Imbalance Market (EIM)

The proposed amendments to the reporting regulation are necessary to further ensure complete and accurate GHG reporting by clarifying reporting requirements, and including additional or modified definitions reflecting the other modifications. The

proposed amendments do not change the overall reporting structure or requirements of the reporting regulation.

## **II. THE PROBLEM THAT THE PROPOSAL IS INTENDED TO ADDRESS**

In order to carry out the goals of AB 32, a robust and accurate GHG reporting program is necessary to track emissions from reporting entities over time and to demonstrate progress in reducing GHG emissions. Additionally, the reported data is the foundation of the California Cap-and-Trade Program and must be complete and accurate in order to successfully implement the market program.

The proposed amendments clarify the existing requirements, add targeted new requirements necessary to support the GHG emissions reduction goals of AB 32 and SB 32, the Cap-and-Trade Program, and support the statewide GHG inventory. In supporting the Cap-and-Trade Program, data is needed to calculate reporting entities' compliance obligations and for allowance allocation. For GHG emissions inventory support, additional requirements give a clearer picture of the current portfolio of GHG emissions in the state, and a better understanding of the progress towards future GHG emissions goals.

In addition to the summary information in this chapter, each update is discussed individually in Chapter III.

Specifically, the problems are addressed as follows:

### **General:**

Staff has proposed modifications in a number of sections to correct typographical errors, clerical oversights, and internal referencing. None of these minor modifications are intended to alter the requirements.

### **Cessation**

Staff has proposed modification to the cessation of verification provisions to allow transportation fuel suppliers and electric power entities with no reportable transactions to qualify for cessation of verification after reporting and verifying one full year with no reportable transactions. Staff believes this strikes a balance between providing necessary accuracy and stability for the reporting and Cap-and-Trade Programs while minimizing verification costs for affected entities.

Staff has proposed to clarify that facility operators subject to the "all-in" applicability provisions in section 95101(a)(1)(A) that qualified for cessation of reporting and verification under previous versions of MRR do not need to begin reporting and verification unless their emissions exceed 10,000 MT CO<sub>2</sub>e in a future calendar year.

Staff has also proposed to clarify that shutdown facilities do not need to be verified if they were not subject to verification prior to shutdown.

### **Definition Clarifications and Additions:**

Staff has proposed clarifications to the definition of “facility” to incorporate a separate facility definition added in the 2016 MRR Rulemaking for onshore natural gas processing to ensure that it is clear what definitions apply to which facility types. This is a non-substantive change to the definition of “facility.” Staff is also proposing new definitions to support the EIM Purchaser requirements added for capturing GHG emissions from electricity imported under the EIM to serve California load.

### **Product Data Reporting:**

Staff has proposed to clarify the requirements for dairy products to clarify how re-melted butter must be reported to align with industry processes and to ensure dairy processors receive the correct allocation for covered product data under the Cap-and-Trade Regulation.

### **Electricity Imports in the Energy Imbalance Market:**

In 2014, the California Independent System Operator (CAISO) implemented an Energy Imbalance Market (EIM), which allows out-of-state entities to participate in trading of “imbalance” energy in CAISO’s real-time energy markets. When importing out-of-state electricity to serve California load, the EIM market identifies, or “deems,” electricity from certain out-of-state sources as dispatched to serve California load in part on the basis of the deemed sources’ GHG emissions intensity.

Under AB 32, CARB must account for statewide GHG emissions, including all emissions resulting from the generation of electricity delivered to and consumed in California, whether that electricity is generated in-state or imported to California to serve California load. In 2015, CARB found that the design of EIM does not account for the full GHG emissions experienced by the atmosphere from imported electricity under EIM and results in emissions leakage. Beginning in 2016, CAISO and CARB began coordinating to address GHG accounting inaccuracies in the EIM.

In the 2016 MRR and Cap-and-Trade rulemakings, CARB initially proposed to address this issue by assigning a reporting and compliance obligation to entities purchasing EIM electricity (“EIM Purchaser”) to serve California. CAISO then developed a proposal for a Two-Pass Solution designed to address the GHG accounting issues within the EIM algorithm. This proposal was intended to more accurately account for the incremental behavior, and emissions, from power plants importing power to California in response to changes in California load through the EIM market. CARB staff supported the further development of CAISO’s two-pass market optimization approach as a mechanism, through reasonable changes to the CAISO algorithm, to provide a rigorous accounting framework for EIM and efficient and timely optimization.

In 2017, CARB implemented a “bridge solution” to account for the full GHG emissions experienced by the atmosphere from imported electricity under EIM. CARB refers to these emissions as EIM Outstanding Emissions. The “bridge solution” was a temporary solution developed in anticipation of CAISO implementing its’ Two-Pass Solution at a

later date. Under the “bridge solution,” Participating Resource Scheduling Coordinators must report their deemed delivered emissions to CARB. CARB then uses this information to calculate “EIM Outstanding Emissions” and currently retires unsold allowances in equal to EIM Outstanding Emissions to account for the compliance obligation associated with emissions leakage in EIM.

In late 2017, CAISO conducted testing of the existing EIM and Two-Pass Solution. The testing showed the Two-Pass Solution more fully accounted for the GHG emissions resulting from electricity serving California load. However, stakeholders identified potential issues with the Two-Pass Solution. Based on stakeholder feedback, CAISO chose not to implement the Two-Pass Solution.

In early 2018, CAISO released a new proposal that would limit the amount of electricity available to support EIM imports to California by constraining individual resource bids to amounts above the base schedule. CAISO anticipates implementing its new proposal in late 2018. This new proposal will improve the accuracy of GHG emissions accounting, but within any given five-minute interval the EIM model could still be attributing lower emitting resources to serve California load without accurately capturing the emissions resulting from the imported electricity. When EIM determines which out-of-state resources are deemed delivered to California in a particular interval, the EIM model will always minimize costs by attributing delivery to the cleanest participating resources that elected to be deemed delivered to serve California load. The cleanest resources are deemed delivered regardless of whether the emissions associated with those specific resources are the only emissions used to satisfy the EIM energy transfer to California. Given the inherent design of the EIM model, the system, even with the proposed improvements, would not address all of the EIM GHG accounting concerns. This is also discussed by CAISO in its EIM Greenhouse Gas Enhancements 3<sup>rd</sup> Revised Draft Final Proposal which states “the proposal reduces secondary dispatches, but does not eliminate them.”<sup>1</sup> Staff believes that the full carbon content of EIM electricity is better represented, consistent with AB 32’s accounting programs, as marginal power from the western power system, using an unspecified electricity default emissions factor. The default emissions factor is an appropriate way of calculating these outstanding emissions as it captures the emissions rate of power plants operating at 60 percent or less of capacity. Plants that operate at 60 percent or less of capacity are marginal plants, and are generally capable of modifying output to support changes in load.<sup>2</sup>

CARB supports CAISO’s latest proposal to limit the bid quantity and must ensure that our climate programs are accounting for all GHG emissions from electricity serving California load. The proposed EIM Purchaser amendments in this rulemaking package allow CARB to better account for GHG emissions resulting from electricity generated to serve California load by collecting the data necessary to assess a compliance obligation

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<sup>1</sup> EIM Greenhouse Gas Enhancements 3<sup>rd</sup> Revised Draft Final Proposal, April 25, 2018:  
<http://www.caiso.com/Documents/ThirdRevisedDraftFinalProposal-EnergyImbalanceMarketGreenhouseGasEnhancements.pdf>

<sup>2</sup> Cap-and-Trade 2010 Final Statement of Reasons:  
<https://www.arb.ca.gov/regact/2010/capandtrade10/fsor.pdf>

for EIM Purchasers based on prior year reported data. CARB will continue to work with CAISO as they assess how the EIM market design could be enhanced to directly account for the full GHG emissions when determining which resources support California load, at which time the EIM Purchaser requirements would no longer be necessary.

In the proposed amendments in MRR and complementary amendments proposed in the Cap-and-Trade Regulation, staff would implement an “EIM Purchaser” approach to assess a reporting and compliance obligation for EIM Outstanding Emissions. First proposed by CARB in 2016, this approach requires reporting and assigns a compliance obligation for EIM Outstanding Emissions directly to California EIM Purchasers as defined in the proposed MRR amendments. This proposal is designed to ensure EIM Outstanding Emissions are based on data reported by purchasers of EIM electricity and are included as a compliance obligation for those entities serving California load whose participation in the EIM results in those emissions. Under the proposed amendments, some entities will receive a compliance obligation for EIM Purchaser emissions directly while others may see indirect compliance costs depending on their participation in the EIM. EIM Purchasers would include scheduling coordinators, such as electricity marketers and entities serving California load who purchase imported electricity in EIM. Under the proposed definition of EIM Purchaser, scheduling coordinators for electricity generators located in California with negative imbalances may also be considered EIM Purchasers, if they are serving those imbalances through imported electricity in EIM. The EIM Purchaser reporting obligation has no minimum emissions threshold. The reporting obligation for EIM Purchasers would begin on April 1, 2019. This means that by June 1, 2020, EIM Purchasers would be required to report their EIM purchases for April 1, 2019 through December 31, 2019, and annually thereafter.

CARB staff intends to coordinate with CAISO staff and EIM Purchasers to design a reporting workbook based on the proposed regulatory requirements that can be easily utilized to report the data required by EIM Purchasers. The workbook would allow EIM Purchasers to download the data from CAISO’s system and carry it over in the same format to CARB’s report. This process would be similar to the one staff designed for reporting Renewable Energy Credit (REC) serial numbers from Western Renewable Energy Generation Information System (WREGIS).

The proposed process and timing for determining and assigning the GHG emissions and compliance obligations associated with each EIM purchaser’s California load served through EIM is analogous to the existing reporting requirements and assessment of compliance obligations for natural gas suppliers. Natural gas suppliers report their total GHG emissions attributable to their natural gas deliveries to all end users in California. CARB then calculates the GHG emissions attributable to natural gas delivered to covered entities and subtracts those emissions from the total emissions based on total deliveries. Using this calculated result, CARB assesses the quantity of GHG emissions associated with a compliance obligation on each natural gas supplier after data are verified.

## **Nitric Acid Producers:**

Staff has proposed to reduce the number of required annual source tests for nitric acid plants that are not subject to a compliance obligation under the Cap-and-Trade Regulation from two tests to one. Data used by Cap-and-Trade to calculate a compliance obligation must meet high standards of accuracy; however, the facilities affected by this proposed change are not covered under the Cap-and-Trade Program and therefore, staff believe a single annual source test is sufficiently accurate.

## **Petroleum and Natural Gas Systems:**

For compressor emissions in section 95153(b), staff is proposing to remove the term “rod packing”, when discussing venting from centrifugal compressors. Centrifugal compressors do not include rod packing, and therefore do not have this source of emissions. For calculating fugitive emissions, staff is also proposing to clarify that there are 8,784 hours in a leap year, in contrast to the default of 8,760 hours in non-leap years.

### **III. THE SPECIFIC PURPOSE OF EACH ADOPTION, AMENDMENT, OR REPEAL AND RATIONALE FOR CARB’S DETERMINATION THAT EACH ADOPTION, AMENDMENT, OR REPEAL IS REASONABLY NECESSARY**

The amendments are being made to ensure the most accurate GHG data are reported and verified to support the Cap-and-Trade Program, CARB’s GHG emissions inventory, and other CARB climate change programs. Anticipated benefits of the proposed amendments include improved clarity for reporting entities as to their reporting requirements, more complete and accurate GHG emissions estimates, and continued robust methods for reporting emissions and product data in order to support CARB’s Cap-and-Trade Program.

This section discusses the requirements and rationale for each provision of the proposed amendments to the reporting regulation.

#### **Subarticle 1. General Requirements for Greenhouse Gas Reporting**

##### **Section 95101. Applicability**

###### Summary of Section 95101(h)(1)(A)4.

Section 95101(h)(1)(A)4. is modified to allow transportation fuel suppliers with no reportable fuel transactions to qualify for cessation of verification after reporting and verifying one full year with no reportable transactions and zero emissions. The current MRR requires reporting and verification of zero emissions for the remainder of the current compliance period and for an entire subsequent compliance period.

#### Rationale for Section 95101(h)(1)(A)4.

This change is necessary because it provides the necessary accuracy and year-to-year data consistency for the MRR and Cap-and-Trade Programs while minimizing the costs of verification for suppliers that have stopped supplying transportation fuel in California, have at least one year of verified zero emissions, and have submitted the necessary shutdown notifications to CARB.

#### Summary of Section 95101(h)(1)(B)

Section 95101(h)(1)(B) is modified to allow electric power entities (EPE)s with no electricity imports or exports to qualify for cessation of verification after reporting and verifying one full year with no imports or exports. The current MRR requires reporting and verification of no imports or exports for the remainder of the current compliance period and for an entire subsequent compliance period

#### Rationale for Section 95101(h)(1)(B)

This change is necessary because it provides the necessary accuracy and year-to-year data consistency for the MRR and Cap-and-Trade Programs while minimizing the costs of verification for entities that have ceased importing or exporting electricity into California, have at least a year of verified zero transactions, and have submitted the necessary shutdown notifications to CARB.

#### Summary of Section 95101(i)(4)

Section 95101(i)(4) is added to clarify that facilities that have shutdown do not need to be verified if they were not subject to verification prior to shutdown.

#### Rationale for Section 95101(i)(4)

This change is necessary to explicitly state that the verification requirement for shutdown facilities only applies if the facility was subject to verification prior to shutdown.

#### Summary of Section 95101(i)(5)

Section 95101(i)(5) is modified to specify that facility operators subject to the applicability provisions in section 95101(a)(1)(A), or “all-in” facilities, that already met the reporting and verification requirements for cessation under previous versions of MRR do not need to begin reporting and verification unless their emissions exceed 10,000 MT CO<sub>2</sub>e in a calendar year.

#### Rationale for Section 95101(i)(5)

This change is necessary to clarify when “all-in” facilities must reenter the reporting and verification programs. In 2016 the cessation requirements were updated and it was not staff’s intent to bring entities that previously met the cessation requirements back into the program after already meeting the cessation requirements under a previous version. The 10,000 MT CO<sub>2</sub>e is a reasonable threshold to return to the program because it is consistent for the emissions level for all other facilities to begin reporting.

## **Section 95102. Definitions**

### Summary of Section 95102(a) Definition of “Electricity Exporter”

The definition of “electricity exporter” is revised.

### Rationale for Section 95102(a) Definition of “Electricity Exporter”

This change is necessary to correct terminology to be consistent with the terminology in CAISO’s market and the requirements specified in MRR.

### Summary of Section 95102(a) Definition of “Electricity Importers”

The definition of “electricity importers” is revised.

### Rationale for Section 95102(a) Definition of “Electricity importers”

This change is necessary to include EIM Purchasers as reporting entities in MRR as importers of electricity.

### Summary of Section 95102(a) New Definition of “Energy Imbalance Market Purchaser” or “EIM Purchaser”

A new definition of “Energy Imbalance Market Purchaser” is added.

### Rationale for Section 95102(a) New Definition of “Energy Imbalance Market Purchaser” or “EIM Purchaser”

A definition of “Energy Imbalance Market Purchaser” is necessary due to the addition of EIM Purchasers as reporting entities in MRR pursuant to section 95111(h)(2) and (h)(3). Beginning April 1, 2019, EIM Purchasers will incur a reporting obligation for their energy consumption resolved by imbalance energy procured in the CAISO market used to serve California load.

### Summary of Section 95102(a) Definition of “Facility”

The definition of “facility” is clarified to incorporate the separate facility definition for gas processing facilities, which was added in the CARB MRR 2016 rulemaking.

### Rationale of Section 95102(a) Definition of “Facility”

The minor non-substantive change to the “Facility” definition is necessary to clarify for oil and gas producers how onshore gas processing plants are required to be reported with other oil and gas equipment for that facility. MRR includes a separate industry-specific definition for onshore natural gas processing facilities that is different from the general “facility” definition, consistent with other oil and gas industry segments reporting pursuant to Article 5 of this regulation. Natural gas processing facilities include other equipment and emissions sources in the same hydrocarbon basin, whereas the general facility definition only requires sources to be reported on continuous and adjacent property.

## **Section 95103. Greenhouse Gas Reporting Requirements**

### Summary of Section 95103(h)

Section 95103(h) is modified to reflect when the proposed amendments for this rulemaking would take effect.

### Rationale of Section 95103(h)

The change is needed to have the effective dates reflect the requirements currently being proposed.

### Summary of Section 95103(h)(1)

Section 95103(h)(1) is changed to add that changes associated with cessation of verification are effective for 2018 data reported in 2019 and remove obsolete requirements.

### Rationale of Section 95103(h)(1)

These changes are needed to implement updates in reporting and verification cessation for 2018 for EPEs, fuel suppliers, and “all-in” facilities. These changes are also needed to remove requirements that were applicable for the 2017 reporting year, and will no longer be applicable moving forward.

### Summary of Section 95103(h)(2)

Original section 95103(h)(2) is deleted.

### Rationale of Section 95103(h)(2)

This section is deleted to remove requirements that were applicable for the 2017 reporting year, and will no longer be applicable moving forward.

### Summary of Section 95103(h)(3)

Section 95103(h)(3) is renumbered to section 95103(h)(2).

### Rationale of Section 95103(h)(3)

This change is necessary to reflect the deletion of requirements in this section.

### Summary of Section 95103(h)(4)

Section 95103(h)(4) is renumbered to section 95103(h)(3).

### Rationale of Section 95103(h)(4)

This change is necessary to reflect the deletion of requirements in this section.

#### Summary of Section 95103(h)(5)

Section 95103(h)(5) is deleted.

#### Rationale of Section 95103(h)(5)

This section is deleted to remove requirements that were applicable for the 2017 reporting year, and will no longer be applicable moving forward.

#### Summary of Section 95103(h)(6)

Section 95103(h)(6) is deleted.

#### Rationale of Section 95103(h)(6)

This section is deleted to remove requirements that were applicable for the 2017 reporting year, and will no longer be applicable moving forward.

#### Summary of Section 95103(o)

The branch name was corrected to “Program Planning and Management Branch”, instead of Monitoring Branch.

#### Rationale of Section 95103(o)

This change is necessary to correct an inadvertent mistake in the name of the branch at CARB that deals with reporting and verification under MRR to the “Program Planning and Management Branch”.

## **Subarticle 2. Requirements for the Mandatory Reporting of Greenhouse Gas Emissions from Specific Types of Facilities, Suppliers, and Entities**

### **Section 95111. Data Requirements and Calculation Methods for Electric Power Entities**

#### Summary of Section 95111(h)(1)

Section 95111(h)(1) is modified to include a sunset date for the current EIM Outstanding Emissions calculation of March 31, 2019.

#### Rationale of Section 95111(h)(1)

This change is necessary to specify when the current calculation for EIM Outstanding Emissions and the associated reporting obligation will be replaced by the new requirements for EIM Purchasers in sections 95111(h)(2) and (h)(3).

#### Summary of Section 95111(h)(1)(A)

Section 95111(h)(1)(A) is modified to clarify that EIM Participating Resource Scheduling Coordinators are required to report the data used by CARB to calculate “Deemed Delivered EIM Emissions.”

#### Rationale for Section 95111(h)(1)(A)

This change is needed to clarify which information CARB relies on to calculate “Deemed Delivered EIM Emissions” and who the data is reported by. This is a non-substantive modification as there are no changes to the data that are reported and which entity reports the data.

#### Summary of Section 95111(h)(1)(C)

Section 95111(h)(1)(C) is modified to add the term “EIM Participating Resource Scheduling Coordinator” in the heading. Additionally, this section is modified to specify the period of time for which EIM Participating Resource Scheduling Coordinators need to report under this section.

#### Rationale for Section 95111(h)(1)(C)

The title change is a non-substantive modification, and was made to distinguish the reporting requirements for EIM Participating Resource Scheduling Coordinators and make them easy to identify within the EIM provisions. The additional text that is added provides that the EIM Participating Resource Scheduling Coordinators would only report for the first quarter of 2019 under these provisions and not for the entire 2019 data year. Beginning April 1, 2019, the EIM Purchaser requirements would be effective and EIM Participating Resource Scheduling Coordinators would then be required to report pursuant to section 95111(h)(2)(C) thereafter.

#### Summary of Section 95111(h)(2)

Section 95111(h)(2) is added to specify the calculation of EIM Outstanding Emissions beginning April 1, 2019, and establish when CARB will perform this calculation. This section would allow CARB to use the 5 minute interval data in the EIM to calculate the difference in emissions between what the atmosphere experiences versus the emissions associated with EIM deemed delivered MWhs when there is a need to balance California load.

#### Rationale for Section 95111(h)(2)

This section is necessary to establish the calculation method for EIM Outstanding Emissions after April 1, 2019, and specify what data will be used to calculate EIM Outstanding Emissions. This section is also needed to establish the timing for when CARB will calculate EIM Outstanding Emissions (after the verification deadline) under the EIM Purchaser proposal discussed earlier in this document. CARB must perform the EIM Outstanding Emissions calculation after the verification deadline so that it can use the most accurate and verified data to assess a compliance obligation for EIM Outstanding Emissions.

#### Summary of Sections 95111(h)(2)(A) through (h)(2)(A)2.

Sections 95111(h)(2)(A) through (h)(2)(A)2. are added to provide the calculation method for EIM Outstanding Emissions as calculated by CARB. EIM Outstanding Emissions are the “Total California EIM Emissions” as calculated pursuant to section 95111(h)(2)(B) less the “Deemed Delivered EIM Emissions” as calculated in

section 95111(h)(1)(C), or zero, whichever value is greater, for every 5-minute interval. This section would allow CARB to use the 5 minute interval data in the EIM to calculate the difference in emissions between what the atmosphere experiences versus the emissions associated with EIM deemed delivered MWhs when there is a need to balance California load.

#### Rationale for Sections 95111(h)(2)(A) through (h)(2)(A)2.

This section is needed to provide regulated entities with the calculation of EIM Outstanding Emissions. EIM Outstanding Emissions represent emissions leakage in the EIM market that is not otherwise reported or assessed a compliance obligation under the Cap-and-Trade Program.

Under AB 32, CARB must account for statewide GHG emissions, including all emissions resulting from the generation of electricity delivered to and consumed in California, whether that electricity is generated in-state or imported to California to serve California load. In 2015, CARB found that the EIM design does not account for the full GHG emissions experienced by the atmosphere from imported electricity under EIM and results in emissions leakage.

5-minute EIM data reporting and calculations are needed to ensure CARB is assessing a compliance obligation based on the most accurate data. 5-minute data allows CARB to calculate a compliance obligation based on each EIM purchaser's actual EIM purchases in each 5-minute interval, taking into account which resources were deemed in each interval and whether the entity purchased electricity to serve California load in each interval.

#### Summary of Section 95111(h)(2)(B)

Section 95111(h)(2)(B) is added to provide the calculation method for "Total California EIM Emissions" as calculated by CARB. This calculation quantifies a conservative estimate of the GHG emissions experienced by the atmosphere associated with EIM deemed delivered MWhs when there is a need to balance California load. The section provides the formula and which emission factor to use to calculate "Total California EIM Emissions" for each 5-minute interval.

#### Rationale for Section 95111(h)(2)(B)

In review of EIM data and as part of discussions with CAISO, staff identified situations where the EIM model does not capture the full GHG profile of the transfers used to balance California load. By calculating the full amount of GHG emissions associated with balancing California load under this section ("Total California EIM Emissions"), CARB can subtract out the emissions associated with the model's deemed delivered MWhs ("Deemed Delivered EIM Emissions"), to establish EIM Outstanding Emissions, which represents the emissions leakage that need to be accounted for within the reporting program and for use in establishing compliance obligations within the Cap-and-Trade Program.

5-minute EIM data reporting and calculations are needed to ensure CARB is assessing a compliance obligation based on the most accurate data. 5-minute data allows CARB

to calculate a compliance obligation based on each EIM purchaser's actual EIM purchases in each 5-minute interval, taking into account which resources were deemed in each interval and whether the entity purchased electricity to serve California load in each interval.

This equation uses the default emission factor CARB uses for unspecified market transactions for establishing the full amount of GHG emissions associated with balancing California load. This emission factor is appropriate because it reflects the emissions of power plants on the margin of western electricity markets and so reasonably approximates the emissions effect of marginal changes in that market in response to changes in California demand.

The current unspecified emission factor is 0.428 MTCO<sub>2</sub>e/MWh and was adopted as part of the CARB 2010 MRR. That value was calculated based on coordination with Western Climate Initiative (WCI) partners and an analysis of the average marginal generation for power plants located in the WECC (Western Energy Coordinating Council).<sup>3</sup> Marginal generation includes plants that are assumed to be capable of generating additional electricity in response to a marginal increase in electricity demand. In the WCI analysis, the calculation of emissions from marginal generation included all fossil fuel-fired power plants in the WECC with a capacity factor of less than 60 percent that do not include a combined heat and power (CHP) component. Renewable and hydroelectric resources and fossil plants with a capacity factor greater than 60 percent were excluded and considered to serve baseload or not available to be exported to California. The resulting unspecified source emission factor is similar to the emission factor from an average single-cycle natural gas power plant. Though that value was adopted as part of rulemaking activities in 2010, CARB staff believe that the emission factor is still an appropriate approximation of the emissions rate associated with power plants on the margin of western electricity markets. While increases in renewables and decreases in coal-fired electricity generation have meant that the emissions intensity of generation in the WECC has decreased since the original analysis was performed, marginal generation resources are still broadly similar. CARB staff recently reviewed the WCI's original methodology and current data from plants in the WECC and believes that a full analysis of the current marginal generation rate (unspecified emissions factor) would result in a marginal rate similar to the one currently being used due to the methodology used to calculate that factor.

#### Summary of Section 95111(h)(2)(C)

Section 95111(h)(2)(C) is added to provide the calculation method for "Deemed Delivered EIM Emissions" as calculated by CARB. This calculation represents the sum of emissions associated with the deemed delivered MWhs assigned by CAISO's model and reported by EIM Participating Resource Scheduling Coordinators. This section also establishes reporting requirements for EIM Participating Resource Scheduling Coordinators under the EIM Purchaser proposal.

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<sup>3</sup> <http://www.westernclimateinitiative.org/document-archives/Electricity-Team-Documents/Default-Emission-Factor-Calculators/Default-Emissions-Calculator---Announcement-and-Description/>

### Rationale for Section 95111(h)(2)(C)

This section is needed to quantify the total emissions associated with the deemed delivered MWhs assigned by CAISO's model and reported by EIM Participating Resource Scheduling Coordinators. CARB would use this total emissions number to determine EIM Outstanding Emissions for which EIM Purchasers would have a compliance obligation. The data reported by Participating Resource Scheduling Coordinators is needed to assign a compliance obligation to these entities for deemed delivered electricity in CAISO's model that serves California load. "Deemed Delivered EIM Emissions" is subtracted from the "Total California EIM Emissions" to quantify the total EIM Outstanding Emissions.

5-minute EIM data reporting and calculations are needed to ensure CARB is assessing a compliance obligation based on the most accurate data. 5-minute data allows CARB to calculate a compliance obligation based on each EIM purchaser's actual EIM purchases in each 5-minute interval, taking into account which resources were deemed in each interval and whether the entity purchased electricity to serve California load in each interval.

### Summary of Section 95111(h)(3)

Section 95111(h)(3) is added to define "EIM Purchaser Emissions" as calculated by CARB, for the EIM starting April 1, 2019. Section 95111(h)(3) also specifies the entities responsible for reporting information supporting CARB's calculation of "EIM Purchaser Emissions."

### Rationale for Section 95111(h)(3)

This section is necessary to support the Cap-and-Trade Program's assignment of EIM Purchaser Emissions to each EIM Purchaser with a compliance obligation associated with EIM Purchases to serve California load. The Regulation must also specify which entities are responsible for reporting information to CARB, because starting in April 1, 2019, CARB requires EIM settlements data from EIM Purchasers, in addition to data reported by EIM Participating Resource Scheduling Coordinators, to apportion EIM Purchaser Emissions. Please see Chapter II of this document regarding electricity imports in the EIM for further discussion of the EIM Purchaser approach.

### Summary of Section 95111(h)(3)(A)

Section 95111(h)(3)(A) is added to specify how, and on what basis, EIM Purchaser Emissions will be calculated by CARB. For every five minute interval, the EIM Purchaser Emissions are proposed to be calculated as the aggregate of the EIM Outstanding Emissions multiplied by the proportion of EIM purchases to serve California load by an EIM Purchaser relative to total EIM Purchases. In other words, EIM Purchaser's EIM Purchaser Emissions are equal to the purchaser's proportion of EIM Outstanding Emissions in each five minute interval summed over the course of the entire data year. EIM Purchaser Emissions are only generated in intervals where there are EIM Outstanding Emissions, and the sum of all EIM Purchaser Emissions across all EIM Purchasers is equal to the interval's EIM Outstanding Emissions.

#### Rationale for Section 95111(h)(3)(A)

This section is necessary to set forth the formula for apportioning the EIM Outstanding Emissions to each EIM Purchaser and establish the EIM Purchaser compliance obligation being proposed in the concurrent amendments to Cap-and-Trade Regulation. The calculation establishes the EIM Purchaser Emissions based on the relative level of participation of each EIM Purchaser in the EIM during times when there are EIM Outstanding Emissions. This allows CARB to use the most accurate data available. Please see Chapter II of this document regarding electricity imports in the EIM for further discussion of the EIM Purchaser approach.

#### Summary of Section 95111(h)(3)(B)

Section 95111(h)(3)(B) is added to specify the proposed annual reporting requirements of 5-minute data for EIM purchases used to serve California load by EIM Purchasers.

#### Rationale for Section 95111(h)(3)(B)

This section is needed to ensure that data necessary to establish the EIM Purchaser Emissions is reported to CARB. The reporting of 5-minute data ensures the EIM Purchaser compliance obligation is based on the most accurate data available and matches the granularity of data reported for EIM Outstanding Emissions. This allows CARB to calculate the EIM Purchaser Emissions proportionally, based only on intervals where there are EIM Outstanding Emissions. Staff anticipates that the reporting of 5-minute data will align with the output data available to each EIM Purchaser from the CAISO, thereby lowering the overall reporting burden and lowering the chance for reporting errors.

### **Section 95115. Stationary Fuel Combustion Sources**

#### Summary of Section 95115(n)(16)

Section 95115(n)(16) is modified to clarify the requirements in the description of re-melted butter. Re-melted butter should be reported as butter production for both the initial production, and again for the production of re-melted butter.

#### Rationale of Section 95115(n)(16)

This change is necessary to clarify product data reporting requirements for dairy processors and ensure they receive the correct allocation for covered product data under the Cap-and-Trade Regulation. Dairy processors should report re-melted butter as butter production.

### **Section 95118. Nitric Acid Producers**

#### Summary of Section 95118(e)

Section 95118(e) is revised to require a second annual performance test only for nitric acid plants that are subject to a compliance obligation under the Cap-and-Trade Regulation. Nitric acid plants that are not subject to a compliance obligation under the

Cap-and-Trade Regulation must still meet the performance test requirements of 40 CFR section 98.223, which requires at least one performance test per year.

#### Rationale of Section 95118(e)

Section 95118(e) has been revised to allow nitric acid plants that are not subject to a compliance obligation under the Cap-and-Trade regulation to only conduct one source test per year instead of two, as required currently. Data used by Cap-and-Trade to calculate a compliance obligation must meet high standards of accuracy and the facilities affected by this change are not covered under the Cap-and-Trade Regulation. Therefore, a single annual source test is sufficiently accurate.

### **Subarticle 5. Reporting Requirements and Calculation Methods for Petroleum and Natural Gas Systems**

#### **Section 95152. Greenhouse Gases to Report**

##### Summary of Sections 95152(f)(5), (g)(3), and (h)(3)

Sections 95152(f)(5), 95152(g)(5), and 95152(h)(3) have been revised to remove the term “rod packing”, when discussing venting from centrifugal compressors.

##### Rationale of Sections 95152(f)(5), (g)(3), and (h)(3)

Section 95153(b) was revised to remove the term “rod packing” from the requirement to report venting emissions from centrifugal compressors. Centrifugal compressors do not have rod packing; rod packing only exists on reciprocal compressors, not centrifugal compressors. Therefore, this change is necessary to accurately reflect the emissions sources for this type of compressor.

#### **Section 95153. Calculating GHG Emissions**

##### Summary of Section 95153(b)

Section 95153(b) is revised to correct the number of hours in a year to be 8,784 in a leap year with 366 days.

##### Rationale of Section 95153(b)

This change is necessary to clarify that there are 8,760 hours in a year, and 8,784 hours in a leap year. These values are used to calculate emissions from certain emissions sources that have hourly emission factors.

##### Summary of Sections 95153(p) and (p)(6)(B)

Sections 95152(p) and (p)(6)(B) are revised to require 8,784 hours per year to be used in the emissions calculation for years with 366 days (leap years), instead of the default of 8,760 hours. This is applicable to Equations 2 and 28 where a default number of hours of 8,760 is in the current version of MRR.

#### Rationale of Sections 95152(p) and (p)(6)(B)

These changes are necessary to clarify that there are 8,760 hours in a year, and 8,784 hours in a leap year. These values are used to calculate emissions from certain emissions sources that have hourly emission factors.

#### **IV. BENEFITS ANTICIPATED FROM THE REGULATORY ACTION, INCLUDING THE BENEFITS OR GOALS PROVIDED IN THE AUTHORIZING STATUTE**

The estimated benefits of the proposed amendments to the regulation are unquantified. The anticipated benefits include improved clarity for reporting entities as to their reporting requirements, more complete and accurate GHG emissions estimates, improved clarity and data to support the statewide greenhouse inventory program, and continued robust methods for reporting emissions and product data in order to support CARB's Cap-and-Trade Program and other related programs.

#### **V. AIR QUALITY**

The regulation, as modified by the proposed amendments, continues to provide regulated entities with a reporting program for submitting GHG emissions data reports to CARB. The proposed amendments affect only program administration and do not involve or result in any changes to the physical environment. The proposed amendments make administrative and procedural changes to clarify and amend existing requirements and definitions in MRR. These changes do not directly alter the compliance with MRR in any way that could affect air emissions, the physical environment, or result in adverse impacts to the environment.

#### **VI. ENVIRONMENTAL ANALYSIS**

The portion of CARB's regulatory program that involves the adoption, approval, amendment, or repeal of standards, rules, regulations, or plans for the protection and enhancement of the State's ambient air quality has been certified by the Secretary for Natural Resources pursuant to Public Resources Code section 21080.5 of the California Environmental Quality Act (CEQA Guidelines section 15251(d)). Public Resources Code section 21080.5 exempts public agencies with certified regulatory programs from certain CEQA requirements, including but not limited to, preparing environmental impact reports, negative declarations, and initial studies. Under its certified program, CARB as a lead agency prepares a substitute environmental document (referred to as an Environmental Analysis or EA) as part of the Staff Report to comply with CEQA's goals and policies and to provide public review of the analysis. (California Code of Regulations, title 17, sections 60000 – 60008).

CARB staff has determined the proposed amendments to MRR are exempt from the requirements of CEQA under CEQA Guidelines section 15061(b)(3) ("common sense" exemption) because it can be seen with certainty that the proposed changes do not alter compliance with MRR in any way that could affect air emissions, the physical

environment, or result in adverse impacts to the environment. The regulation, as modified by the proposed amendments, continues to provide regulated entities with a reporting program for submitting GHG emissions data reports to CARB. The proposed amendments affect only program administration and contents of databases, and do not involve or result in any changes to the physical environment. After the amendments are finalized, a Notice of Exemption will be filed with the Office of Planning and Research and the Secretary of Natural Resources for public inspection.

## **VII. ENVIRONMENTAL JUSTICE**

State law defines environmental justice as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies (Government Code, section 65040.12, subdivision (c)). CARB is committed to making environmental justice an integral part of its activities. The Board approved its Environmental Justice Policies and Actions (Policies) on December 13, 2001, to establish a framework for incorporating environmental justice into CARB's programs consistent with the directives of State law (CARB 2001). These policies apply to all communities in California, but recognize that environmental justice issues have been raised more in the context of low-income and minority communities.

Actions of CARB, local air districts, and federal air pollution control programs have made substantial progress towards improving the air quality in California. However, some communities continue to experience higher exposures than others because of the cumulative impacts of air pollution from multiple sources.

Adoption and implementation of the proposed amendments to the reporting regulation will have no negative environmental impacts on environmental justice communities. Facilities throughout the state will be required to report their GHG emissions, with the focus on those facilities producing the highest levels of emissions. The amended regulations continue to include mandatory reporting for over 90 percent of the stationary source GHG emissions in California, including specified combustion, process, and fugitive emissions. Emissions information from these reports is made available to the public, providing accurate and transparent GHG emissions data to environmental justice communities via the CARB Pollution Mapping Tool.

## **VIII. ECONOMIC IMPACTS ASSESSMENT**

In this chapter, CARB staff provides the estimated costs to businesses and public agencies to comply with staff's proposed amendments to the reporting regulation. The amendments are expected to affect approximately 63 business entities. This includes 43 California businesses, 13 local government facilities, 1 state facility, and 1 federal facility, and 5 businesses outside of California.. Some industrial sectors will have overall net cost increases such as for purchasers of Electricity Imbalance Market energy. Other sectors will have cost savings, such as for electricity generators, fuel suppliers, and nitric acid manufacturers. Over 8 years, the estimated net impact is a

*savings* of \$248,469, which is the sum of cost increases of \$348,400 for the added reporting requirements for EIM Purchasers, and cost *savings* of \$596,869 for the other proposed amendments. The cost estimates are based on approximations of the amount of time required to comply with each of the amended provisions for each affected industry sector. The approximations of costs provide a general estimate of the economic impacts that typical businesses subject to the proposed amendments might encounter. Individual companies may experience different impacts than those projected here, depending on various factors such as complexity of operation, types of emission units on-site, and existing compliance practices.

Because of the overall cost savings, and relatively minimal additional costs for those that do have increases, CARB staff does not expect businesses to be affected adversely by the costs of the proposed amendments. As a result, staff does not expect a noticeable change in employment, business creation, expansion, or elimination, or business competitiveness in California.

### **Summary of Economic Impacts**

The primary costs associated with complying with the proposed amendments to the reporting regulation are costs incurred for recordkeeping activities and preparation of an annual emissions data report.

In developing the amendments to the GHG reporting regulation, staff attempted to minimize costs, while complying with the specific reporting requirements of AB 32 and collecting high quality data to support the market-based Cap-and-Trade Program, the statewide GHG inventory, and the Cost of Implementation Fees Program. The amended regulation will have minimal cost impacts for reporters affected by the amendments, and the vast majority of reporters will not experience a noticeable change in the cost of compliance.

The proposed amendments increases reporting requirements for 11 businesses currently reporting to MRR, which is estimated to result in an additional \$770 in costs per business in the first year, and \$385 per facility in subsequent years, resulting in \$38,122 in total costs for these businesses over eight years. In addition, five new reporters will be affected by the proposed amendment. CARB staff estimates an additional \$7,540 cost per facility in the first year and \$5,155 in subsequent years, resulting in \$218,133 in total costs for these businesses over eight years. This is a total cost increase of \$256,255 due to the proposed amendments.

CARB staff also anticipates cost savings due to the proposed amendments. Amendments that affect the requirements for cessation of reporting and verification are estimated to reduce costs for a number of businesses who may be eligible to cease reporting and/or verifying sooner than they would be under the current MRR, resulting in cost savings over 8 years of \$498,404. Proposed amendments will also reduce compliance costs for one nitric acid producer, by an estimated \$98,464 over 8 years. Overall, this is estimated to reduce costs, in aggregate, by \$596,868.

The proposed amendments will not require additional CARB funding. The amendments will be implemented using existing CARB staffing. Any CARB fiscal expenses needed

for implementing the proposed amendments are already accounted for in the current operational budget that was approved as a part of the previous rule amendments.

None of the businesses affected by the proposed amendments are small businesses. The cost of this amendment is not expected to have a significant material impact on any affected businesses. As a result, CARB staff does not expect a noticeable change in employment, business creation, elimination or expansion, consumer prices, or business competitiveness in California due the reporting requirements. CARB staff also expects no job or business losses due to the reporting regulation because most of the job creation associated with GHG reporting was gained following implementation of the original rule in 2007.

The reporting regulation amendments would have no discernible impact on the ability of California businesses to compete with businesses in other states. This is because the regulation does not impose a significant cost impact on California businesses, and overall, provides a cost reduction.

### **Legal Requirements for Fiscal Analysis**

Section 11346.3 of the Government Code requires that, in proposing to adopt or amend any administrative regulation, State agencies must assess the potential for adverse economic impacts on California business enterprises and individuals, including the ability of California businesses to compete with businesses in other states. The assessment must also include the potential impact of the regulation on California jobs, business expansion, elimination or creation, and the ability of California businesses to compete with businesses in other states.

Also, State agencies are required to estimate the costs or savings to any State or local agency and school districts in accordance with instructions adopted by the Department of Finance. The estimate shall include any non-discretionary cost or savings to local agencies, and the cost or savings in federal funding to the State.

Health and Safety Code section 57005 requires CARB to perform an economic impact analysis of submitted alternatives to the proposed regulation before adopting any major regulation. A major regulation is defined as a regulation that will have a potential cost to California business enterprises in an amount exceeding ten million dollars in any single year. CARB staff has determined that the amendments to the proposed regulation are not a major regulation as defined above.

The following is a description of the methodology used to estimate costs, as well as CARB staff's analysis of the economic impact on California businesses and State and local agencies.

### **Costs to State Government and Local Agencies**

GHG reporting is mandatory for any facility or entity that meets the regulation's applicability requirements, including state and local agencies. The proposed amendments affect approximately 11 local electricity providers (electric power entities), and one state electricity provider (also an electric power entity).

Only one State agency, that imports electricity, is affected by the proposed updates. Due to the proposed amendments, staff expect this agency to incur a cost increase of approximately \$770 in the first year and \$385 for subsequent years, based on an estimate of the additional time required to assemble required data.

Ten of the 11 local electricity providers that are in the business of delivering and importing electricity will incur a similar cost increase to the State agency above. 1 of the 11 local electricity providers is expected to incur larger cost increases--\$7,540 in the first year and \$5,155 in subsequent years--due largely to the verification costs once that electricity provider becomes subject to verification under the proposed amendments.

The amendments will be implemented using existing CARB staffing, and no change in staffing level is needed to administer the program under the amended rule. Any CARB fiscal expenses needed for implementing the proposed amendments are already accounted for in the current operational budget that was approved as a part of the previous rule amendments.

### **Estimating Costs for Compliance**

As a part of developing the regulatory amendments, CARB staff estimated the costs of compliance for facilities subject to the amendments.

The reporting regulation focuses on the largest stationary sources of GHG emissions and other sources that provide for an effective Cap-and-Trade Program. The specific cost for a facility subject to GHG reporting can vary significantly depending on each facility's unique situation in terms of its sector designation, type and size of its fuel combustion equipment, facility complexity, emissions level, and its current monitoring and sampling practices as compared to its requirements under this proposal.

For an individual reporting entity (which may either be an industrial facility, an electric power entity, or a fuel supplier, as defined in the reporting regulation), the cost per entity may range widely. Additional costs for typical businesses subject to the proposed amendments will generally be small, because the bulk of the baseline costs are incurred complying with the existing CARB reporting regulation.

The main steps taken to estimate costs for facilities and entities are as follows:

- Review individual amended requirements to identify those that may have noticeable cost impact on affected reporting entities.
- Identify the new tasks that each facility type will need to perform to comply with the amended regulation, as well as the existing tasks that each facility type will no longer need to perform.
- Estimate the incremental time requirements of different compliance tasks that are expected for each amended rule provision.
- Compile the cost components and calculate the cost impacts for each amended requirement that has been identified to lead to a noticeable cost impact.
- Review the list of reporting entities (facilities, electric power entities, and fuel suppliers) and the information they included in their previous emissions data reports to identify the reporting entities affected by each amended requirement.

- Review the list of affected facilities to identify those owned by local and state government entities, group these facilities by their common local government entity owner, and quantify costs similar to private industry sector described above.
- Calculate the total costs over eight years.

Some of the proposed updates produce a minor cost savings, while others impose minor additional costs.

### **Significant Adverse Economic Impact Directly Affecting Business**

The proposed regulatory action would not have a significant statewide adverse economic impact directly affecting businesses. The cost impacts for affected reporters are estimated to range from a total eight-year cost increase of approximately \$43,627 per facility for new EIM Purchasers subject to verification, to \$3,466 per facility for businesses already reporting and verifying.

## **IX. EVALUATION OF REGULATORY ALTERNATIVES**

Government Code section 11346.2, subdivision (b)(4) requires CARB to consider and evaluate reasonable alternatives to the proposed regulatory action and provide reasons for rejecting those alternatives. This section discusses alternatives evaluated and provides reasons why these alternatives were not included in the proposal. As explained below, no alternative proposed was found to be less burdensome and equally effective in achieving the purposes of the regulation in a manner than ensures full compliance with the authorizing law. The Board has not identified any reasonable alternatives that would lessen any adverse impact on small business.

Before taking final action on the proposed regulatory action, the Board must determine that no reasonable alternative considered by the Board or that has otherwise been identified and brought to the attention of the Board, would be more effective in carrying out the purpose for which the action is proposed, would be as effective and less burdensome to affected private persons than the proposed action, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.

Because the proposed amendments are made to the existing reporting regulation, and given that these proposed amendments do not have a significant adverse fiscal or economic impact, no alternatives, other than making no changes, or attempting to obtain required data from other third-party sources were considered. In conclusion, no alternative considered by the agency would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective as or less burdensome to affected private persons than the proposed regulation.

### **Take No Action Alternative for Complete Regulation**

The first alternative considered is to take no action. This alternative would not impose the additional costs on some entities or produce cost savings for other entities;

however, if no MRR amendments are made, the current regulation will subject facilities to additional costs and will not allow for CARB to account for all emissions from imported electricity as required under AB 32. Staff has carefully evaluated the necessity and utility of each proposed regulation update and has worked closely with affected stakeholders to develop the Proposed Amendments. Each change is necessary to support the completeness and accuracy of GHG emissions and product data, which is used in California's Cap-and-Trade Program, the California statewide GHG emissions inventory, and other key CARB programs. For these reasons, the take no action alternative is neither practical nor beneficial to CARB and its affected reporters.

The following sections provide additional discussion of alternatives considered for proposed changes that may lead to additional requirements or costs for reporters.

### **Performance Standards in lieu of MRR Amendments.**

California Government Code 11346.2(b)(4)(A) provides that "In the case of a regulation that would mandate the use of specific technologies or equipment or prescribe specific actions or procedures, the imposition of performance standards shall be considered as an alternative." A non-prescriptive performance standard would not meet the purposes required by MRR, or the underlying statute. The reporting regulation must set forth a well-defined and consistent set of procedures for emission estimation, reporting, and verification in order to meet specific CARB requirements under AB 32 and in support of the Cap-and-Trade and Cost of Implementation Fees programs. A general performance standard, which does not define specific means of compliance, would not be reasonable because it would not allow CARB to maintain the necessary GHG reporting and verification requirements that support critical CARB program requirements. Therefore, because these core requirements are not compatible with flexible performance standards, it was not considered further.

### **Additional Qualitative Data Collection Requirements.**

Staff has proposed requirements to include additional descriptive and qualitative information that has a minimal impact on reporters or costs, but which significantly improve the usefulness of collected data. This primarily includes additional reporting of data for electric power entities, as well as new reporting requirements for an estimated 8 new electric power entities.

Two alternatives were considered in making these amendments. The first was to not collect the additional data (no action alternative). This alternative would reduce the utility of data being collected and needed for the Cap-and-Trade Program and GHG inventory analysis purposes. The second alternative considered was to collect the data from other sources. This alternative would require contacting affected facilities, air districts, or obtaining other data sources, which would be extremely resource intensive for both CARB and for the reporting entities. Instead, the most efficient and cost effective approach is to update the regulation as proposed, and require reporting of the additional information via the existing GHG mandatory reporting regulation, through the existing CARB GHG reporting tool. Therefore, neither of these alternatives considered

by the agency would be more effective in carrying out the purpose for which the amendments are proposed or would be as effective as, or less burdensome, to affected private persons than the proposed amendments.

### Electric Power Entity Updates

Staff proposed updates to MRR for electric power entities as previously described. The proposed changes require minimal additional resources for those already reporting across the sector and provide data necessary to support the California Cap-and-Trade Program. As previously discussed, those eight entities subject to the proposed amendments who do not currently report or verify will incur some additional costs to gather and submit data, and to pay for third-party verification. In evaluating amendments for this sector, several alternatives were evaluated including taking no action (retaining the existing requirements). As discussed in the summary and rationale the reporting obligation for EIM purchases to serve California load should be assessed against the purchasers of the EIM electricity. Therefore, none of the alternatives considered by the agency would be more effective in carrying out the purpose for which the amendments are proposed or would be as effective as or less burdensome to ensure the goals of AB 32 are met with regard to imported electricity.

### Small Business Alternative

No small businesses are affected by the proposed amendments; thus, the Board has not identified any reasonable alternatives that would lessen any adverse impact on small business. CARB staff verified the small business status of each reporting entity by conducting a detailed review of their corporate owner information, as well as conducting research on their parent company to determine the size and dominance. It was determined that none of the affected reporters qualify for small business status based on the California Government Code Section 11342.610 definition.

### Health and Safety Code section 57005 Major Regulation Alternatives

For a major regulation proposed on or after January 1, 2014, a standardized regulatory impact analysis is required. (A major regulation is one “that will have an economic impact on California business enterprises and individuals in an amount exceeding fifty million dollars [\$50,000,000], as estimated by the agency.” [Govt. Code Section 11342.548]). CARB staff has determined that the amendments to the proposed regulations are not a major regulation as defined above.

Similarly, under Health and Safety Code Section 57005(b), “major regulation” means any regulation that will have an economic impact on the state’s business enterprises in an amount exceeding ten million dollars (\$10,000,000), as estimated by the board, department, or office within the agency proposing to adopt the regulation in the assessment required by subdivision (a) of Section 11346.3 of the Govt. Code. The proposed regulation will not result in a total economic impact on state businesses of more than \$10 million in one or more years of implementation. Therefore, this proposal is not a major regulation as defined by Health and Safety Code section 57005.

**X. JUSTIFICATION FOR ADOPTION OF REGULATIONS DIFFERENT FROM FEDERAL REGULATIONS CONTAINED IN THE CODE OF FEDERAL REGULATIONS**

The U.S. EPA requires mandatory GHG reporting (Mandatory Reporting of Greenhouse Gases; Final Rule. 40 CFR Parts 86, 87, 89, 90, 94, and 98. United States Environmental Protection Agency. October 30, 2009). Staff believe the proposed regulation is consistent with existing federal law. This proposed amended regulation was developed to minimize, to the greatest extent possible, any redundant State and federal reporting, while also ensuring that CARB is collecting the necessary additional information required by California's various GHG programs, including the Cap-and-Trade Regulation, Cost of Implementation Fee Regulation, and the statewide GHG inventory.

**XI. PUBLIC PROCESS FOR DEVELOPMENT OF THE PROPOSED ACTION (PRE-REGULATORY INFORMATION)**

Consistent with Government Code sections 11346, subdivision (b), and 11346.45, subdivision (a), and with the Board's long-standing practice, CARB staff held public workshops to discuss changes affecting the electric power entities, in concert with staff and management who oversee CARB's Cap-and-Trade Program. These workshops were held March 2, April 26, and June 21, 2018. These informal pre-rulemaking discussions provided staff with useful information that was considered during development of the regulation that is now being proposed for formal public comment. Other changes are considered to be relatively minor clarifications, and have not been a subject of pre-rulemaking workshops.

## XII. REFERENCES

1. Heller, K., Depro, B., Norris, S., & Lentz, T. (2012, May). *Economic Impact Analysis for the Nitric Acid Manufacturing NSPS*. U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards (OAQPS). Research Triangle Park: RTI International, Inc. Retrieved from [https://www3.epa.gov/ttn/ecas/docs/eia\\_ip/nitric-acid\\_eia\\_nsps\\_final\\_11-2012.pdf](https://www3.epa.gov/ttn/ecas/docs/eia_ip/nitric-acid_eia_nsps_final_11-2012.pdf)
2. United States Department of Labor. (2018, March 30). *May 2017 State Occupational Employment and Wage Estimates*. Retrieved June 21, 2018, from Bureau of Labor Statistics: [https://www.bls.gov/oes/current/oes\\_ca.htm#00-0000](https://www.bls.gov/oes/current/oes_ca.htm#00-0000)
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4. California Independent System Operator. (April 25, 2018). *EIM Greenhouse Gas Enhancements 3<sup>rd</sup> Revised Draft Final Proposal*. Retrieved August 8, 2018, from <http://www.caiso.com/Documents/ThirdRevisedDraftFinalProposal-EnergyImbalanceMarketGreenhouseGasEnhancements.pdf>