California Environmental Protection Agency

Air Resources Board

STAFF REPORT: INITIAL STATEMENT OF REASONS FOR RULEMAKING

AMENDMENTS TO THE REGULATION FOR THE MANDATORY REPORTING OF GREENHOUSE GAS EMISSIONS

Air Quality Planning and Science Division
Greenhouse Gas Emission Inventory Branch

September 4, 2013

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State of California

AIR RESOURCES BOARD

STAFF REPORT: INITIAL STATEMENT OF REASONS FOR RULEMAKING

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

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Questions

If you have questions concerning this report, please contact:

Dr. David Edwards	or	Ms. Joelle Howe
Manager,		Air Pollution Specialist,
Climate Change Reporting Section Phone: (916) 323-4887		Climate Change Reporting Section Phone: (916) 322-6349
Email: dedwards@arb.ca.gov		Email: jhowe@arb.ca.gov

This report has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

Prepared By:

Air Quality Planning and Science Division

Greenhouse Gas Emission Inventory Branch

Climate Change Reporting Section

Emissions Quality Assurance and Verification Section

Reviewed by

Office of Legal Affairs

Air Quality Planning and Science Division

Stationary Source Division

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EXECUTIVE SUMMARY

Air Resources Board (ARB or Board) staff is proposing to amend the Regulation for the Mandatory Reporting of Greenhouse Gas (GHG) Emissions (reporting regulation) 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) as well as California's statewide greenhouse gas emission inventory and other ARB climate change programs.

This staff report presents ARB 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 revisions to the current reporting regulation. Staff is not proposing major changes to GHG reporting requirements; however flexibility will be added to the reporting regulation to include new industrial sectors that are included in the United States Environmental Protection Agency (U.S. EPA) GHG reporting rule, but not currently included in the reporting regulation. The proposed changes correct or clarify the reporting requirements necessary for submittal of complete and accurate emission data reports, and add or modify data elements for product data reporting necessary to support the Cap-and-Trade program. Further, as discussed below, ARB is not planning to harmonize with U.S. EPA draft rule changes until the final rule changes are approved.

Background

The Global Warming Solutions Act of 2006 (Assembly Bill 32, or AB 32) requires California to cut greenhouse gas emissions to 1990 levels by 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 the ARB to adopt regulations for the mandatory reporting of greenhouse gas emissions in order to monitor and enforce compliance with ARB's GHG emissions reduction actions, including market-based compliance mechanisms. The reporting regulation was originally developed and adopted by the Air Resources Board (ARB) in December 2007. In December 2010, the Board adopted amendments to the reporting regulation in order to harmonize with the GHG reporting requirements of the U.S. EPA, to support California's Cap-and-Trade program, and to ensure consistency with the Western Climate Initiative (WCI) reporting structure. In September 2012, the Board adopted further amendments to the reporting regulation in order to continue harmonization with the U.S. EPA, as well as add conforming definitions to the Cap-and-Trade Regulation and the AB 32 Cost of Implementation Fee Regulation.

Since the Board's December 2012 action, ARB staff has identified additional clarifications to the California regulatory requirements that are needed to support a market-based Cap-and-Trade program. Similar to previous amendments to the reporting regulation, ARB staff intends to continue efforts to harmonize with U.S. EPA rule revisions, to the extent feasible and where appropriate. U.S. EPA is currently undergoing a regulatory amendment process to revise global warming potentials, add in new emission factors, and modify calculation methods, but these amendments are not

yet final. Once final, ARB will evaluate the revisions to determine whether a future rulemaking action to further amend the California reporting regulation is necessary.

Objectives of the Proposed Updates Amendments

ARB staff has proposed amendments to the regulations in order to:

- Continue to support California's Cap-and-Trade program by requiring further information in order to ensure consistency with benchmarking, allocation of allowances, and supporting the covered emissions calculation; and
- Ensure that reported GHG emissions data is accurate and complete in order to support California's GHG reduction programs, including the statewide GHG emission inventory.

The proposed amendments to the mandatory reporting regulation do not change the overall reporting structure. Requirements were added for lead production. In addition, flexibility has been added to capture new sectors as defined in the U.S. EPA GHG reporting rule, as they become applicable to mandatory reporting in California. The verification requirements remain the same, although staff is proposing clarifications for assessing product data material misstatements and addressing correctable reporting errors. These proposed amendments improve upon, clarify, and add to the existing requirements. Product data elements and requirements were added and updated to ensure facilities have the opportunity to receive their full allotment of allowance allocations under the Cap-and-Trade program.

Overview of the Proposed Amendments

Table ES-1provides summaries 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 Greenhouse Gas Emissions

Topic/Sector	Proposed Regulatory Update
General Applicability	• Add the lead production sector to the applicability section • Clarify the cessation of reporting requirements. • Add a section on cessation of verification requirements to ensure consistent interpretation of these requirements. • Add other U.S. EPA industry sectors • Add fuel cell emissions to applicability threshold
Petroleum and Natural Gas Production	• Clarify the definition of onshore petroleum and natural gas production facility • Update leaker emissions reporting to allow for both a population counts and a sampling method for emissions estimation • Add flash liberation test to determine emissions from produced water. This test has been added as Appendix B to the regulation. • Clarify several product data reporting requirements to support the allocation of allowances under the Cap-and-Trade program
Lime Production Emissions	• Update emissions estimation method for carbon dioxide reabsorbed during the production process
Fuel Suppliers	• Modify requirements to aid in the calculation of the Cap-and-Trade compliance obligation • Clarify definitions to support the reporting requirements
Lead Production	• Add new emissions and product data reporting requirements for this sector
Facility Ownership	• Clarify reporting and verification responsibilities during ownership change
Product Data	• Add product data in manufacturing and production categories to assist with Cap-and-Trade allowance allocation and benchmarking. This includes the food processing sector and lead production • Add product data reporting requirements for refineries to include the complexity weighted barrel throughputs.
Stationary Combustion	• Add reporting requirements for fuel cell emissions • Require reporting of supplementary data for bio-methane producers
Electric Power Entities	• Clarify that sellers of specified power must warrant or guarantee that the power sold was actually acquired as specified source power, not re-marketed unspecified power • Add supporting documentation requirements for specified source busbar claims that do not use the transmission loss factor • Clarify the existing requirement that asset-controlling supplier (ACS) power must be reported as unspecified, when not acquired

Topic/Sector	Proposed Regulatory Update
	as a specified source • Add a requirement that purchasers of system power with a carbon content above the default emission factor must report using a system power emission factor rate as determined by ARB, instead of at the unspecified rate, in order to reflect system power carbon content
Hydrogen	• Modify reporting requirements to prevent double-counting with regards to transferred carbon dioxide • Add product data reporting requirements to support the Cap-and-Trade program
Verification	• Clarify requirements of verification to include specific nonconformance checks • Allow for optional exclusion of certain covered product data from the product data material misstatements determination. This requirement applies to all covered product data, except for the cement sector • Add provisions for multiple verification statements in cases where multiple products are being reported (e.g., primary refinery products and CO_2 weighted tonne)
Inventory Support	• Add requirements to hydrogen production to support the state-wide greenhouse gas emissions inventory • Add unit aggregation requirements for abbreviated reporters to enable consistent reporting for electricity generators
Adaptive Management Support	• Add requirement for facility operators to indicate whether facilities' criteria or air toxics pollutant emissions have increased since the last reporting period

Staff Recommendation

Staff recommends that the Board adopt the proposed amendments to the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions.

I. INTRODUCTION AND BACKGROUND

This staff report presents proposed amendments to the Regulation for the Mandatory Reporting of Greenhouse Gas (GHG) Emissions, developed pursuant to the California Global Warming Solutions Act of 2006 (Assembly Bill 32 or AB 32).

A. Overview of Prior Regulatory Actions

The Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (reporting regulation) was originally developed pursuant to AB 32, and adopted by the Air Resources Board (ARB or Board) in December 2007 (ARB MRR 2007). In December 2010, ARB adopted substantial revisions 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 a California greenhouse gas (GHG) Cap-and-Trade program; and to align with the Western Climate Initiative (WCI) reporting structure, which became effective on January 1, 2012. Revisions were made in 2012 to continue alignment with U.S. EPA, further support the Cap-and-Trade program, the Cost of Implementation Fee Reg and the statewide GHG inventory. These revisions became effective January 1, 2013. The full regulatory record and background for these three previous GHG reporting regulation rulemakings is available here:

http://www.arb.ca.gov/regact/2007/ghg2007/ghg2007.htm (ARB MRR 2007) http://www.arb.ca.gov/regact/2010/ghg2010/ghg2010.htm (ARB MRR 2010) http://www.arb.ca.gov/regact/2012/ghg2012/ghg2012.htm (ARB MRR 2012)

B. Specific Purpose for the Adoption of the Proposed Regulatory Revisions

ARB staff has proposed amendments to the regulations in order to:

- Continue to support California's Cap-and-Trade program by clarifying reporting requirements for the covered emissions calculation, product data verification procedures, and adding additional product data reporting; and
- Clarify that reported GHG emissions data is accurate and complete in order to support California's GHG reduction programs, including the statewide GHG emission inventory.

Similar to past rulemakings, ARB staff notes that it intends to continue efforts to harmonize with U.S. EPA rule revisions, to the extent feasible and where appropriate. U.S. EPA is currently undergoing a regulatory amendment process to add in new emission factors, modify calculation methods, and revise global warming potentials but these changes are not final. These amendments may become final in the federal rules later this year. Once final, ARB will evaluate the revisions to determine whether a future rulemaking action to further amend the California reporting regulation is necessary.

The proposed amendments to the reporting regulation are necessary to further ensure complete and accurate GHG reporting by clarifying reporting requirements, updating emission estimation methods and emission factors, clarifying verification requirements,

and including additional or modified definitions reflecting the other modifications. The proposed amendments do not change the overall reporting structure of the reporting regulation; however flexibility has been added to the regulation to accommodate new sectors reaching reporting applicability in California.

II. STATEMENT OF REASONS

A. DESCRIPTION OF PROBLEM PROPOSAL IS INTENDED TO ADDRESS

In order to carry out the goals of AB 32, a robust and accurate greenhouse gas reporting program is necessary to track emissions from reporting entities over time and to demonstrate progress in reducing GHG emissions. Additionally, the reported data are 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 to add new emission and product data reporting requirements and to clarify several reporting and verification provisions utilized by the reporting program are necessary to support the GHG emissions reduction goals of AB 32 and the Cap-and-Trade program.

This chapter includes a discussion of proposed revisions to the regulations in Section B, and the Rationale to those proposed revisions in Section C. All changes are discussed in further detail in Chapter VII, Summary and Rationale.

B. PROPOSED SOLUTIONS TO THE PROBLEM

This section includes a discussion of some of the key proposed revisions to the reporting regulation. The general rationale for the updates is to support the Cap-and-Trade program and to support the GHG emissions inventory. In supporting the Cap-and-Trade program, data is needed to calculate reporting entities' compliance obligations, for benchmarking, and for allowance allocation. For GHG emissions inventory support, additional requirements and new calculations methods for reporters as well as more specific verification requirements give a clearer picture of the current portfolio of GHGs in the state, and a better understanding of the progress towards future GHG emissions goals. The sections below are not an exhaustive list, but do provide an overview of the proposed updates.

<u>Applicability:</u> Proposed revisions in this section have been added to require GHG reporting by facilities in the lead production sector. This sector was specifically not included in prior updates to the reporting regulation, as there was no known lead production facility in the state which met applicability requirements for GHG reporting. With the identification of lead production facilities in the state that meet the applicability requirements, staff is now proposing to include emission and product data reporting requirements in new section 95124. Additionally, staff is also proposing to add emissions and product data reporting requirements for other industrial sectors listed in the U.S. EPA's GHG reporting rule that had previously been excluded from California's

reporting regulation due to the lack of identified sources in the state. Facilities in these sectors will now be required to report if they either meet the applicability requirements or begin industrial operations in the state rather than waiting for a rulemaking to add them.

Staff also added language to clarify that vented and fugitive emissions must be included in the calculation for the emissions applicability threshold, as well as including emissions from hydrogen fuel cell units.

Cessation of Reporting and Verification: Staff has proposed revisions to clarify the cessation of reporting as well as the cessation of verification requirements. The cessation requirements for reporting and verification are now broken out into two separate sections for greater clarity. Additionally, the proposed revisions clarify the different cessation of reporting requirements between the mandatory reporting and Cap-and-Trade regulations.

The revisions specify that a reporting entity must fully comply with the Cap-and-Trade requirements. When a covered entity is no longer subject to the Cap-and-Trade program, the entity must continue to comply with the cessation of reporting and verification requirements.

Definition Clarifications and Additions: Existing definitions were clarified to eliminate ambiguity. New definitions were added to support updated requirements, such as new product data categories, modified requirements for electric power entities, and clarifications of existing terms including emissions data reports, correctable errors, and common control.

Abbreviated Reporters: Additional, minor requirements were added for abbreviated reporters to ensure data compatibility with non-abbreviated emissions data reports. This new data includes attributing percentages of aggregated fuel consumption to the unit type categories specified in section 95115(h), separately reporting electricity generating units from other general stationary combustion units, and including emissions from hydrogen fuel cell units in their reports. Additionally, staff has clarified the requirement for abbreviated reporters to correct known errors in their emissions data reports, if discovered after the original submission of their report, ensuring the most accurate data reporting possible.

Reporting 2013 data in 2014: Because the proposed amendments to this reporting regulation will become effective after the data has been collected for 2013, staff specifically describes reporting of 2013 data in 2014 for new reporting requirements. The language in this section is applicable to new reporting requirements in the following areas: product data reporting requirements found in subarticles 3 and 5; reporting requirements for operators of hydrogen and lead production facilities, suppliers of natural gas, and electric power entities. Provisions are also added for indicating which requirements are applicable for 2014 data reported in 2015.

Metering Requirements: Staff added language to exempt certain non-financial transaction meters used by Public Utility Gas Corporations (PUGCs) from the metering accuracy requirements, if they are operated and maintained in conformance with a standard that meets the measurement accuracy requirements of the California Public Utilities Commission General Order 58A. This was added so that PUGCs do not have to meet two different metering standards for the same meters. Additionally, it ensures the continued accuracy of the non-financial transaction meters by requiring the PUGC to demonstrate accuracy requirements specified in the California Public Utilities Commission General Order 58A, which is consistent with the existing reporting requirements.

Product Data Reporting: Staff added language to allow reporters the option to exclude covered product data from the product data material misstatement calculation under certain conditions. This new provision applies to all covered product data reporting except for the data reported by the cement sector in section 95110(d). This new provision also includes a requirement for each reporting entity to identify which covered product data was excluded and estimate of amount, for tracking purposes. These modifications allow increased flexibility for reporting and use of covered product data while reducing the opportunities for unintended consequences for unforeseen data losses.

Facility Ownership: To clarify the reporting and verification responsibilities during a change of ownership, staff has proposed amendments that specify the steps which must be taken by the parties, and who is responsible for reporting. This ensures the consistent and continuous reporting of emissions and product data from subject facilities following a change in ownership.

Reporting Data to Support the Adaptive Management Plan for the Cap-and-Trade Regulation: Staff added a requirement for facilities to indicate if their non-GHG emissions (i.e., criteria and toxic pollutant emissions) may have increased since the last reporting period, and the reason for such potential increases. This information will be used to support the Adaptive Management Plan for the Cap-and-Trade regulation. Specifically, the data collected will be used to provide on-going evaluation and adjustments to the Cap-and-Trade regulation, as it relates to localized air quality impacts due to implementation.

Recordkeeping Requirements: All facilities with greater than 25,000 metric tons CO_2e of covered emissions must prepare and maintain a GHG Monitoring Plan. New language specifies that this requirement also applies to facilities with biomass-derived CO_2 emissions, geothermal emissions, and fuel suppliers. Maintaining a GHG Monitoring Plan helps to ensure compliance and best practices, facilitate more efficient verification,

and provide a consistent treatment among the facilities at the greater than 25,000 metric tons CO_2e emission level.

Electric Power Entities: The proposed amendments for electric power entity reporting address issues related to specified source and asset-controlling supplier power claims. The amendments would build on requirements developed in the 2012 rulemaking to more clearly distinguish between specified, unspecified, and asset-controlling supplier power products. The amendments proposed for system power language would require purchasers of system power that has a carbon content above the default emission factor to report imported power using a system power emission factor calculated by ARB, instead of the lower default emission factor for unspecified power, in order to accurately reflect the carbon content of the system power.

Multiple Electricity Generation and Cogeneration Units with Multiple Dedicated End Users: Under the proposed revisions, if a facility includes more than one cogeneration (cogen) system or electricity generating unit and provides or sells generated energy to more than one end user, and the generated energy from the multiple units is not mixed before being supplied to a particular end user, the entity must report the energy disposition by unit or system. This requirement does not apply if the energy generated by multiple units is commingled and supplied to the same end users. It enables the assessment of carbon cost pass-through from the cogen facility operator to their thermal hosts, separately from other units that are not part of the cogen system.

Cooling Energy: New language proposed by staff requires facility operators to provide information about thermal energy which is used to produce cooling energy or distilled water for a customer outside of its facility boundary or for on-site industrial processes or operations that are neither in support of nor a part of the power generation system. This new requirement allows affected reporting entities to complete their system energy balance.

Refineries: Proposed updates in this section include clarifying text describing the verification requirements for primary refinery products and the Solomon EII value. The proposed revisions outline which verification requirements need to be followed for present and future data submissions. A new reporting requirement was added to annually determine the density of each carbon dioxide weighted tonne throughput to allow for an accurate assessment of this covered product data. Additionally, complexity weighted barrel requirements were added to support the allocation of allowances in the Cap-and-Trade program. The complexity weighted barrel requirements are similar to the carbon dioxide weighted tonne throughputs, but are reported in barrels as opposed to metric tons of throughput.

Updates have also been made so that refineries who also supply transportation fuels must report the transportation fuels under a separate “fuel supplier” ARB ID from the refinery. This ensures that the covered refinery emissions are reported and verified

separately from the fuel supplier emissions. It also clarifies verification requirements by requiring verifiers to consider the refinery emissions separately from the supplier emissions, thereby facilitating an effective verification of the refinery emissions.

Hydrogen Fuel Cells: The past few years has seen a growth in installation of new hydrogen fuel cell units. To support the state wide inventory of electricity generation emissions and to help ARB monitor the growth in hydrogen fuel cell installations, emissions reporting for hydrogen fuel cell are added. Fuel cell emissions are still exempted from the Cap-and-Trade program.

Hydrogen Production: Staff is also proposing several new requirements for hydrogen production facilities. The source category description has been edited to include facilities which do not sell hydrogen, but rather consume all the hydrogen they produce on-site (e.g., R&D facilities). To support both the GHG statewide inventory, new requirements have been added which require reporting of carbon and hydrogen content and CH_4 and N_2O combustion emissions. Reporters will also be required to report the amount of on-purpose and by-product hydrogen production at their facility. Reporters will need to include their flaring emissions, a requirement that was originally in the 2007 version of the reporting regulation, but was inadvertently omitted during the harmonization with the U.S. EPA rule in 2010. Finally, reporters will be required to adjust their facility emissions for both transferred CO_2 to guard against double-counting and provide data consistency for all report facilities. These updates support the development of an accurate GHG inventory and support benchmarking and allocation analyses in the Cap-and-Trade program.

Stationary Combustion Sources: Staff revised this section to simplify emissions estimation for biomass-derived fuel, allowing use of the Tier 1 or Tier 2 methodologies when biomass fuels are mixed with fossil fuels. Staff also provided a correction for the aggregated data reporting requirement, so fuel use percentages are reported instead of heat input values, which is consistent with the reporting tool inputs. Staff also added new product data reporting requirements for several industrial sectors. This additional reporting is needed for Cap-and-Trade benchmarking and allocation of free allowances to the affected sectors.

Lime Production Emissions: For some industrial sectors that produce lime, the CO_2 produced is reabsorbed into the manufacturing process and not released into the atmosphere. Staff has proposed an updated emissions estimation method that accounts for CO_2 reinjected and recovered in production, so emissions can be treated appropriately in the Cap-and-Trade program.

Fuel Suppliers: Several revisions have been added for suppliers of transportation fuels, natural gas, natural gas liquids, and liquefied natural gas (LNG). The first allows all fuel suppliers to use *de minimis* provisions in reporting. This ensures consistency with other

reporting entities, which already are allowed to use *de minimis* provisions. For transportation fuel suppliers, staff added language to delineate which fuels are required to be reported. Specifically, the new language clarifies that fuel used for aviation or marine purposes is not reported as a transportation fuel, primarily because the fuel is largely combusted outside of California.

In addition, staff also revised the definition and reporting requirements for operators of intrastate pipelines to better clarify the applicability and reporting requirements for operators of intrastate pipelines delivering natural gas. This addition was made to ensure consistent and complete reporting of all natural gas delivered to end-users within California. New provisions affecting natural gas utilities were also added, which require utilities to report customer data regarding deliveries to smaller end-users and 're-deliveries' to other natural gas utilities. The new reporting requirements will enhance ARB staff's ability to accurately and promptly determine the covered emissions value for the natural gas utilities.

Lastly, additions were made to the applicability requirements and reporting requirements that require all liquefied natural gas production facilities to quantify and report emissions from delivered LNG product if the facility is receiving the natural gas feedstock for the liquefaction process from an interstate pipeline. This addition ensures that there are no gaps in reporting natural gas supplied in California.

<u>Petroleum and Natural Gas Systems:</u> The majority of the proposed changes to Subarticle 5 will correct clerical references, address equation variable omissions, and provide additional clarity. The definition of an onshore petroleum and natural gas production facility was clarified to support the allocation of allowances in the Cap-and-Trade program. Additional edits provide clarity to the reporting of stationary combustion emissions, particularly combustion emissions associated with non-pipeline quality natural gas. Staff has also proposed new language to require reporting of emissions from completions and workovers from oil wells in addition to current requirements for gas wells. This will result in more complete emissions coverage as the majority of wells in California are for oil production.

Staff has proposed revisions to add flexibility in leaker emission reporting by allowing the use of both the population counts and the sampling method for estimating emissions. This will result in an annual cost savings of $1,125,000 while maintaining the reporting of this data. Since leaks are fugitive emissions, they do not carry a compliance obligation in the Cap-and-Trade program.

Staff has also added new language to require that the amount of dry gas produced is also reported. While this was optional in prior data years, it is now required to support Cap-and-Trade allowance allocations. Other new language requires the reporting of the crude fraction and associated gas fraction of emulsion piped as an emulsion as defined in section 95102(a), also to support Cap-and-Trade allowance allocation. Finally, staff proposed that onshore natural gas processing facilities with an annual throughput of 25MMscf/day or more are required to report volumes of gas processed.

Flash Liberation Test: ARB staff has proposed to add in a new test procedure, which details an ARB methodology for the testing and determination of produced water, crude oil and condensate emissions via a flash liberation test. This procedure is a cost-effective method of determining gas-to-oil and gas-to-water ratios for oil wells. The test procedure is included in new Appendix B of this regulation.

Verification: Several provisions related to verification services and verification bodies have been updated. New language clarifies specific requirements for the conformance evaluation. Staff is also proposing updates to allow for multiple product data verification statements in cases where multiple product types are reported (e.g., primary refinery products and carbon dioxide weighted tonne). Staff has also added language to clarify the intent of the correctable error requirements in section 95131(b)(9).

Staff added language to clarify requirements of liability insurance for verification bodies, as well as simplifying the withdrawal requirements for verification bodies who no longer wish to participate in the mandatory reporting program. Clarifying language allows verification bodies to perform multiple third-party verification services for the same reporting entity under the auspices of different GHG reporting programs, and avoid a high conflict determination, provided that the verification body continues to observe the requirements of mandatory reporting conflict of interest (COI) determination.

General: Staff has proposed modifications in a number of other sections, in order to maintain consistency in the structure of the regulation. None of these minor modifications are intended to alter requirements – several of the updates or additions correct clerical oversights and references, while others renumber sections for uniformity with the remainder of the reporting regulation.

C. RATIONALE SUPPORTING THE PROPOSED SOLUTIONS

As stated previously, the amendments are being made to ensure the most accurate GHG data is reported and verified to support the Cap-and-Trade program, and ARB's GHG emissions inventory. Anticipated benefits of the proposed amendments include improved clarity for reporting entities as to their reporting and verification obligations, more accurate GHG emissions estimates from corrected or updated emissions calculation methods and emission factors, improved clarity to support the statewide greenhouse inventory program and continued robust methods for reporting emissions and product data in order to support ARB's Cap-and-Trade program and other GHG-related programs. These benefits may also have indirect beneficial impacts on the health and welfare of California residents, worker safety, and the state's environment by ensuring that the state has an accurate emissions inventory to support ARB's emission reduction measures.

D. ALTERNATIVES CONSIDERED

California Government Code section 11346.2 requires ARB 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 proposed revised regulation. ARB staff did not find any of the alternatives considered to be more effective in carrying out the purpose for which the revised regulation is proposed, or to be as effective or less burdensome to affected businesses, than the proposed revised regulation.

Take No Action Alternative for Complete Regulation. An overall "no action" alternative means that no revisions would be made to the existing California GHG reporting regulation. Under this alternative, ARB and reporting entities would continue to operate pursuant to the requirements of the existing regulation. If ARB were to take no action, reporting entities subject to the existing GHG regulation would prepare California-specific emissions data reports which are not fully supportive of ARB GHG inventory and Cap-and-Trade programs. In addition, without action, the clarifications and updates proposed would not be implemented, leading to incomplete and potentially incorrect data reporting. For these reasons, the take no action alternative is neither practical nor beneficial to ARB 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.

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 information from abbreviated reporters, power generators, fuel suppliers, and cogeneration plants. Two alternatives were considered in making these revisions. 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 Cap-and-Trade 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 other data sources individually which would be extremely resource intensive for both the ARB 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 ARB greenhouse gas reporting tool. Therefore, neither of these alternatives considered by the agency would be more effective in carrying out the purpose for which the revisions are proposed or would be as effective or less burdensome to affected private persons than the proposed revisions.

Requirements for Specified Source and Asset-Controlling Supplier requirements, and System Power Reporting. Staff has proposed several modifications to the requirements necessary to claim specified source power, Asset-Controlling Supplier power, and power tagged at the system level (system power). Additional changes would clarify language on the ownership threshold for retail provider reporting emissions associated

with High GHG-Emitting Facilities or Units located outside California, and on the retention of generation meter data.

These amendments clarify the reporting requirements. Sellers of specified power would be required to warrant or guarantee that power sold was actually acquired as specified source power, and is not re-marketed unspecified power. Electric power entities would be required to submit supporting documentation for specified source busbar claims that do not use the transmission loss factor, to provide a more specific verification standard. The amendments would also require reporters of Asset-Controlling Supplier (ACS) power to report as unspecified, when not acquired as specified source power, in order to reflect the fact that Asset-Controlling Supplier power can be sold in the market as either specified or unspecified power; require reporters to use the transmission loss factor when reporting Asset-Controlling Supplier power, in order to reflect actual transmission loss associated with delivery from the Asset-Controlling Supplier system to California; and would require purchasers of system power with a carbon content above the default emission factor to report using a system power emission factor rate to be determined by ARB, instead of at the unspecified rate, in order to reflect system power carbon content.

In evaluating amendments for this sector, two alternatives were evaluated including to take no action (retaining the existing requirements) or to harmonize with U.S. EPA requirements. In the current reporting regulation, certain provisions for specified source power and Asset-Controlling Supplier power claims are ambiguous, and there are currently no provisions in the reporting regulation for system power tagged. Without the proposed changes, to obtain the necessary data, ARB would have to provide guidance that might potentially extend beyond the explicit authority provided in the regulation. The proposed update avoids this possibility. Second, the U.S. EPA GHG reporting rule does not address electricity power imports nor provide for any designation of asset-controlling supplier; therefore the data must be collected via the reporting regulation under the proposed revisions. Therefore, neither of these alternatives considered by the agency would be more effective in carrying out the purpose for which the revisions are proposed or would be as effective or less burdensome to affected private persons than the proposed regulation.

<u>Requirements for Petroleum Refineries and Hydrogen Production</u>. Under the proposed revisions, refineries that are also fuel suppliers would be required to separately report these activities as separate reporting entities. This provides additional clarity desired by both ARB and the regulated reporting entities. For hydrogen production, the changes eliminate potential double counting of emissions, and include additional requirements to ensure consistent and complete data reporting. For both of these sectors, the two alternatives considered were taking no action and directly adopting the associated U.S. EPA regulations. Not taking action would provide incomplete and potentially inaccurate data reporting. Adopting the associated U.S. EPA requirements is an inadequate alternative because the data collected would not be sufficiently accurate or complete to meet ARB program needs. Therefore, neither of these alternatives considered by the agency would be more effective in carrying out the purpose for which the revisions are

proposed or would be as effective or less burdensome to affected private persons than the proposed revisions.

Requirements for Petroleum and Natural Gas Systems. The proposed changes for this sector were included to require reporting of emissions from completions and workovers for oil wells for more consistent and complete reporting, to clarify reporting requirements for an onshore oil and gas production facilities, and to correct typos and add clarifying text. The two alternatives considered were taking no action and directly adopting the associated U.S. EPA regulations. Not taking action would provide incomplete and potentially inaccurate data reporting. Adopting the associated U.S. EPA requirements is an inadequate alternative because the data collected would not be sufficiently accurate or complete to meet ARB program needs, including Cap-and-Trade. Therefore, neither of these alternatives considered by the agency would be more effective in carrying out the purpose for which the revisions are proposed or would be as effective or less burdensome to affected private persons than the proposed revisions.

Addition of Reporting Requirements for Lead Production. The proposed revision includes the addition of reporting requirements for the lead production sector, which was overlooked in the previous regulation. Two alternatives were considered to this proposal, which were taking no action and directly adopting the associated U.S. EPA regulations for lead production. Not taking action would provide incomplete reporting, and would not be equitable when compared to other facilities that must submit GHG data reports. Adopting the associated U.S. EPA requirements is an inadequate alternative because the data collected on its own would not be sufficiently accurate or complete to meet ARB program needs. Therefore, neither of these alternatives considered by the agency would be more effective in carrying out the purpose for which the revisions are is proposed or would be as effective or less burdensome to affected private persons than the proposed revisions.

Requirements for Verification. The proposed revisions for the verification requirements are included to clarify the verification requirements, and to improve the overall completeness of the verification process. The only alternative considered related to these proposed revisions was to take no action. Taking no action would produce detrimental impacts on the full verification of submitted data reports. Verification is a primary element in ensuring complete and accurate reporting, so deficiencies in the verification process produces deficiencies in data used by ARB programs that rely on the verified data. Therefore, no alternative considered by the agency would be more effective in carrying out the purpose for which the revisions are proposed or would be as effective as or less burdensome to affected private persons than the proposed revisions.

III. SUMMARY OF PROPOSED ACTION

Staff is proposing the amendments to the reporting regulation to continue to support the Cap-and-Trade program through the reporting of complete and robust GHG emissions data, and to continue supporting the statewide GHG emissions inventory, to the extent

feasible. A more detailed summary of the proposed amendments is included in Section B of Chapter II (Proposed Solutions to the Problem). Staff is recommending that the Board accept the revisions to the regulation, as proposed.

IV. ENVIRONMENTAL IMPACTS ANALYSIS/ASSESSMENT [CEQA Analysis]

A. Introduction

This chapter provides an environmental analysis (EA) for the proposed regulatory amendments to the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions. Based on ARB's review, staff has determined that the implementations of the proposed amendments would not result in any significant or potentially significant adverse impacts on the environment. This analysis provides the basis for reaching this conclusion. This section of the staff report also discusses the environmental benefits resulting from the implementation of the proposed regulatory amendments.

B. Environmental Review Process

ARB is the lead agency for the proposed regulatory amendments and has prepared this EA pursuant to its regulatory program certified by the Secretary of the Natural Resources Agency (14 CCR 15251(d); 17 CCR 60005-60007). In accordance with Public Resources Code section 21080.5 of the California Environmental Quality Act (CEQA), public agencies with certified regulatory programs are exempt from the requirements for preparing environmental impact reports, negative declarations, and initial studies (14 CCR 15250). As required by ARB's certified regulatory program and the policy and substantive requirements of CEQA, ARB has prepared an assessment of the potential for significant adverse and beneficial environmental impacts associated with the proposed regulation and a succinct analysis of those impacts (17 CCR 60005(b)). This EA is included in the Staff Report: Initial Statement of Reasons (ISOR) prepared for the rulemaking (17 CCR 60005). The resource areas from the CEQA Guidelines Environmental Checklist were used as a framework for assessing the potential for significant impacts (17CCR 60005(b)).

If comments received during the public review period raise significant environmental issues, staff will summarize and respond to the comments in writing. The written responses will be included in the Final Statement of Reasons (FSOR) for the regulation. If the regulation is adopted, a Notice of Decision will be posted on ARB's website and filed with the Secretary of the Natural Resources Agency for public inspection (17 CCR 60007(b)).

C. Prior Environmental Analysis

The Regulation for the Mandatory Reporting of Greenhouse Gas Emissions was originally developed pursuant to the California Global Warming Solutions Act of 2006 (AB 32), and became effective on January 1, 2009 (ARB MRR 2007). In 2010, ARB proposed additional revisions in order to support a California greenhouse gas (GHG) Cap-and-Trade program and 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, Part 98, and became effective on January 1, 2012. In 2012, ARB proposed further revisions in order to continue supporting Cap-and-Trade, as well as the AB 32 Cost of Implementation Fee regulation, and continued harmonization with U.S. EPA updates, which became effective on January 1, 2013. The environmental analyses in the prior Staff Reports for the initial regulation, and its 2010 and 2012 revisions concluded that the regulation would not result in any significant environmental impacts.

D. Proposed Amendments

1. Description

   The proposed regulatory amendments are described in detail in Chapter VII of this Staff Report. These changes clarify and amend existing requirements and definitions in the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions.

2. Methods of Compliance

   In order to comply with the proposed amendments, the regulated community would collect and submit the required data in the required timeframe, as required by the regulation.

E. Environmental Impacts/ Assessment

Based on ARB's review of the proposed regulatory amendments, staff concludes that the amendments would not result in any significant or potentially significant adverse impacts on the environment because compliance with the proposed amendments would not result in any physical change to the existing environment. The amendments consist of administrative and procedural changes that affect only program administration and contents of databases, and do not involve or result in any new development, modifications to buildings, or new land use designations. Further, compliance with the proposed amendments would not involve any activity that would involve or affect aesthetics, air quality, agricultural and forestry resources, biological resources, cultural resources, geology and soils, greenhouse gases, hazardous material, hydrology and water quality, land use planning, mineral resources, noise, population and housing, public services, recreation, or traffic and transportation because they would not require any action that could affect these resources.

No discussion of alternatives or mitigation measures is necessary because no significant or potentially significant adverse environmental impacts were identified.

V. 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 (Senate Bill 115, Solis; Stats 1999, Ch. 690; Government Code § 65040.12(c)). The Board approved Environmental Justice Policies and Actions on December 13, 2001, to establish a framework for incorporating environmental justice into the ARB's programs consistent

with the directives of State law. The policies subsequently developed apply to all communities in California, but they recognize that environmental justice issues have been raised more in the context of low income and minority communities, which sometimes experience higher exposures to some pollutants as a result of their proximity to multiple sources of air pollutants.

Actions of the ARB, 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 continues 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 will be made available to the public.

VI. ECONOMIC IMPACTS

The economic impacts analysis shown in this staff report was conducted to meet current legal requirements under the Administrative Procedure Act (APA). Section 11346.3 of the Government Code requires that, in proposing to adopt or amend any administrative regulation, State agencies shall assess the potential for adverse economic impact on California business enterprises and individuals. The assessment shall include a consideration of the impact of the proposed or amended regulation on the ability of California businesses to compete with businesses in other states, the impact on California jobs, and the impact on California business expansion, elimination, or creation.

In this chapter, ARB 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 170 private business entities, 21 local government entities, and 6 state government entities. The proposed amendments are expected to impact 274 facilities (including those operated by private and public entities) and 11 fuel supplier entities, for a total of 285 reporting accounts. There is a difference between the number of business entities and the number of reporting accounts because the point of regulation is an individual facility (where the facility, not its parent company, is the regulated unit), and many facilities have common parent company or common operator. On the other hand, under the reporting requirements, a fuel supplier company reports all applicable activities in the state, regardless of the physical locations where the activities occur. Therefore, instead of its individual activity locations, a fuel supplier company is the regulated unit in the GHG reporting program. The total cost impact to all affected entities, including private businesses and local and state government entities, is projected to be $56 million over an 8-year time period.

The cost estimates are based on approximations of the amount of time required to comply with the amended provisions, associated labor wage rates, costs of any emissions measurement requirements, and verification costs. The approximations of costs provide a general picture of the economic impacts that typical businesses subject to the proposed amendments might encounter. ARB staff recognizes that 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.

Overall, most affected businesses are among the larger businesses in California. ARB staff does not expect these 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. However, staff anticipates that existing contractors that perform work for the oil and gas sector may need to expand to meet additional needs, and existing consulting businesses that assist regulated entities with emissions reporting and verification may see new business opportunities as the result of the proposed amendments.

A. Analysis of Costs and Economic Impacts

A.1. Summary of Costs and Economic Impacts

There are three primary costs associated with complying with the proposed amendments to the reporting regulation:

1. Emission reporting compliance costs, including costs incurred for monitoring, sampling, recordkeeping activities and the preparation of an annual emissions data report;
2. Costs for third-party verification of submitted GHG emissions data, when required; and
3. Costs to the State to administer the reporting program, including modifying the existing web-based reporting tool and data system to incorporate the proposed amendments.

In developing the amendments to the GHG reporting regulation, staff has attempted to minimize costs, while complying with the specific reporting requirements of AB 32 and collecting data of high quality to support the market-based Cap-and-Trade program. The amended regulation will have noticeable cost impacts on half of all the businesses currently subject to the existing reporting regulation. Other businesses that are already subject to the reporting regulation will not experience a noticeable change in cost of compliance.

Over 8 years, ARB staff estimates that the amended requirements will lead to a cost increase of $56 million for private business entities, $54,600 for local government entities, and $13,900 for state government entities. For an average private business entity not in the oil and gas sector, the amendments are expected to result in an average annual cost increase of approximately $4,200 in the initial year and $2,800 in the ongoing years per business entity (which may operate multiple facilities, each of

which may be impacted by the regulation amendments differently). An oil and gas company may see an average incremental cost of approximately $479,000 in the initial year and ongoing years. Staff estimated that 98.1% of all the cost impacts occur in the oil and gas sector.

For the 21 affected local government entities, the amendments are expected to result in an average annual cost increase of $1,150 in the initial year and $250 in the ongoing years per local government entity (which may operate multiple facilities, each of which may be impacted by the regulation amendments differently). For the 6 affected state universities and state prison, the amendments are expected to result in an average annual cost increase of $1,005 in the initial year and $230 in the ongoing years per state government entity.

For all regulated entities, staff anticipates costs to diminish over time as facilities and fuel suppliers incorporate GHG reporting into their normal business practices. Summaries of state-wide incremental costs are presented in Table VI-1a, Table VI-1b, and Figure VI-1. All costs are stated in 2012 dollars. Although a range of conservatively high and conservatively low costs were estimated, the tables and figure show only the middle-estimate values.

Table VI-1a. Summary of Incremental Costs for Private Businesses

Industry Sector	Number of Affected Companies[1]	Number of Affected Reporting Entities[1]	8-Year Cost ($)[2]	Share of Total Private Industry Cost
Oil & Gas Production	17	27	55,138,715	98.11%
Petroleum Refineries	9	14	277,416	0.49%
Food Manufacturing	33	58	259,451	0.46%
General Stationary Fuel Combustion Facilities	59	76	207,554	0.37%
Power Generation	35	55	107,179	0.19%
Hydrogen Production	3	7	89,077	0.16%
Lead Production	1	1	81,958	0.15%
Lime Manufacturing	1	1	20,094	0.04%
Fuel Supplier	11	11	17,574	0.03%
Glass Production	1	1	1,983	0.0035%
TOTAL	**170**	**251**	**56,201,001**	**100%**

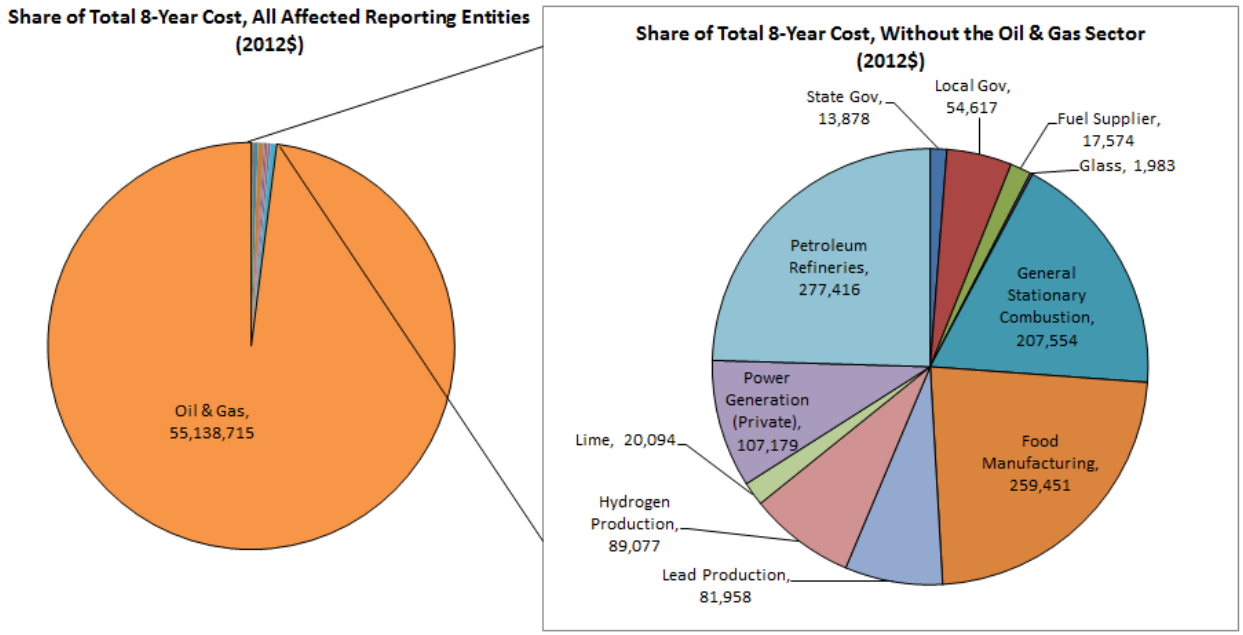
1. As defined in the GHG reporting regulation, a reporting entity is a facility, a supplier of fuel or CO_2, or an electric power entity. A business or a company may operate multiple facilities (and therefore multiple reporting entities) that are each subject to the reporting regulation and may each be impacted by the amendments differently. For the operator of industrial facilities, the point of regulation or the regulated unit is a facility, not its company.
2. Future costs are discounted at 5%. A time horizon of 8 years is used for the regulation implementation from 2014 to 2021. Although a range of conservatively high and conservatively low costs were estimated, the table only shows the middle-estimate values.

Table VI-1b. Summary of Incremental Costs for Government Entities

	Number of Affected Government Entities[1]	Number of Affected Reporting Entities[1]	8-Year Cost ($)[2]	Average 8-Year Cost/ Entity ($)
Local Government Entities	21	28	54,617	2,601
State Government Entities	6	6	13,878	2,313

[1.] As defined in the GHG reporting regulation, a reporting entity is a facility, a supplier of fuel or CO_2, or an electric power entity. A government entity may operate multiple facilities (and therefore multiple reporting entities) that are each subject to the reporting regulation and may each be impacted by the amendments differently. For the operator of industrial facilities, the point of regulation or the regulated unit is a facility, not its company.
[2.] Future costs are discounted at 5%. A time horizon of 8 years is used for the regulation implementation from 2014 to 2021. Although a range of conservatively high and conservatively low costs were estimated, the table only shows the middle-estimate values.

Figure VI-1. Total 8-Year Cost among Private Industry Sectors and Local and State Government Entities



The proposed amendments will not require additional ARB funding. The amendments will be implemented using existing ARB staffing. Any ARB 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 these proposed amendments are small business entities and in most cases, have millions of dollars in annual revenues. The cost of this amendment is not expected to have a significant material impact on these businesses. As a result, ARB staff does not expect a noticeable change in employment, business creation, elimination or expansion, or business competitiveness in California due the reporting requirements. ARB staff also expects no job or business losses due to the reporting regulation since most of the job creation associated with GHG reporting was gained following implementation of the original rule in 2007. Although it is not quantified, existing contractors that perform work for the oil and gas sector may expand to meet additional needs, and existing consulting businesses that assist regulated entities with emissions reporting and verification may see new business opportunities as a result of the proposed amendments.

Although the economic impacts of these amendments are not expected to have a direct impact on the health and welfare of California residents, worker safety, and the state's environment, the anticipated benefits of the amendments described in Chapter II may have indirect benefits on the health and welfare of California residents, on worker safety, and on the state's environment.

The information, assumptions and methodologies used to determine compliance costs are summarized in Section A.3 of this chapter. All the cost estimates provided in this chapter are given in 2012 dollars.

A.2. 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 business 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 district 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 ARB 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. ARB staff has determined that the amendments to the proposed regulations are not a major regulation as defined above.

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

A.3. Analysis of Estimated Costs for Compliance

As a part of developing the regulatory amendments, ARB staff estimated the costs of compliance for facilities subject to the amendments. Briefly, the 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.
- Establish the baseline for the cost estimation, which is the cost of compliance to meet the requirements of the extant regulations.
- 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.
- Evaluate the incremental costs associated with the changes in tasks that are expected to be performed by the reporting entities in monitoring and sampling fuel, measuring emissions, preparing emissions reports, creating or updating GHG monitoring plans, developing GHG emission estimates, and providing staff to prepare and submit the emissions reports as well as hosting verification site visits. The labor costs are calculated by multiplying the estimated time requirements for performing each task by a range of wage rates from the U.S. Bureau of Labor Statistics (BLS 2012).
- Estimate the costs of third-party verification for facilities that will be newly subject to verification after the promulgation of the amended regulation, and for facilities that are already subject to verification but are likely to see an incremental increase in verification costs due to the new data resulted from the proposed monitoring, measurement, and reporting requirements.
- Compile all 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 and fuel suppliers) and the information they included in their emissions data reports to identify the reporting entities affected by each amended requirement.
- Group the affected reporting entities identified in the previous step by their parent company, and count the number of affected "businesses" or "companies" (the unit of economic impact evaluation mandated by State Administrative Manual Sections 6600 – 6680; note that this unit of economic impact is different from the point of regulation or the regulated unit under the reporting regulation).
- Sort the affected reporting entities into industry sector categories. Sum all the estimated costs to industry sector category level. Calculate the average cost per

company by dividing the sum of the industry sector cost by the number of affected companies in the sector.

- Review the information submitted in the emission data report and research the ownership structure to identify any small business entities.
- 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. Quantify costs similar to private industry sector described above.
- Calculate the total costs over 8 years by applying a discount rate of 5%.

The methodology for estimating incremental costs is described in the following subsections.

A.3.1. Scope of Cost Estimation

Baseline and Incremental Cost

This analysis focuses on the net difference (or increment) between two cost estimates:

- baseline compliance costs for GHG reporting under extant regulations, and
- additional compliance cost or saving under the proposed amendments.

The incremental costs or saving estimated in this analysis do not represent the total costs to comply with GHG reporting regulations, but only the difference between the cost of GHG reporting with and without the proposed amendments. The net incremental cost combines both cost increases and cost savings.

Amended Rule Provisions with Noticeable Change in Costs

Many of the amended regulatory provisions provide clarifications to the existing requirements and do not lead to a change in cost; while some amended provisions instruct reporting entities to include in their emissions data report some information they already know and do not require additional time to measure or collect, and these also do not lead to a noticeable cost increase. Staff identified 15 proposed regulatory provisions that may lead to a noticeable change in costs. ARB staff has estimated the economic impacts for each of these provisions in this economic analysis:

- Abbreviated reporters to report breakout of aggregated fuel consumption by unit type categories. Engineering estimation is acceptable and no new meter installation is required.
- Facilities with purchases of biomethane to report additional information on the biomethane source.
- Facilities with total facility emissions greater than 25,000 $MTCO_2e$ but which have less than 25,000 $MTCO_2e$ of cap-and-trade covered emissions are to

prepare and maintain a GHG monitoring plan consistent with other facilities.

- Operators of hydrogen fuel cells are to calculate and report emissions from hydrogen fuel cell units to include in the applicability threshold comparison.
- Operators that use cogenerated energy in chillers that produce cooling to an outside end-user or on-site industrial process must report the amount of steam used for these applications.
- Refineries that are also subject to reporting requirements as a fuel supplier are to report their refinery operation and fuel supply operation in separate emission data reports.
- Hydrogen production facility operators are to determine the carbon and hydrogen content of feedstock, report CH_4 and N_2O emissions, and report flaring emissions and hydrogen sales data.
- A lead production facility operator is newly subject to the reporting program in California.
- A lime manufacturing facility is to measure and account for the process CO_2 emissions recaptured and not emitted to the atmosphere.
- Local Distribution Companies (LDC) are to report the annual gas quantity, customer information, and ARB ID (if available) for all deliveries to end-users registering greater than 188,500 MMBtu, effectively lowering the threshold for reporting end-user information from 25,000 MT CO_2e of gas delivered to 10,000 metric tons CO_2e of gas delivered.
- Liquefied natural gas (LNG) production facility operators are to quantify and report emissions from delivered LNG product if the facility is receiving the natural gas feedstock for the liquefaction process from an interstate pipeline.
- Operators of facilities in industry sectors that receive new transition assistance based on product-based benchmark are to report new covered product data.
- Onshore oil and gas processing facilities which pipe emulsion from an oil platform as defined in the reporting regulation.
- Onshore oil and gas production facility operators are allowed to use either the population count method or the sampling method for estimating emissions leaks (this results in a cost saving).
- Onshore oil and gas production facility operators are to measure and report well completion and workover emissions from all oil wells in addition to gas wells.

Identification of Affected Facilities, Entities, and Companies

For industrial and institutional facilities and power plants, the rule applicability of the reporting regulation is determined on a facility basis, and the rule provisions are also implemented on a facility basis. An individual facility, rather than its parent company, is the “point of regulation” or the regulated unit. A separate emissions data report must be submitted for each facility. Facilities operated by local and state government entities

are treated the same as facilities operated by private businesses. On the other hand, the reporting boundary and regulation applicability for fuel suppliers and electric utilities is determined on a company basis in the reporting regulation. Therefore, the cost analysis for facilities was done on a facility basis that was later reconciled to the company-level, while the cost analysis for fuel supplier was done on a company basis.

At the time of this regulation amendment, the California GHG reporting program has already collected 5 years of data (2008-2012) from individual reporting entities that are subject to the regulation. ARB staff also has acquired substantial knowledge in the practices and operations of reporting entities through years of experience assisting reporters and verifiers during program implementation. Unlike previous regulation amendments, where specific reporting entities affected by the amendments were often unknown, ARB staff was able to identify the specific reporting entities that are expected to be impacted by each amended provision for the current rulemaking. For each of the 15 amended rule provisions with a cost impact, staff used information submitted in the emissions data reports and staff's knowledge about the individual reporting entities in identifying the affected facilities. Staff also anticipated that approximately 4 new facilities may be captured by the proposed addition of hydrogen fuel cell emissions reporting. While the majority of reporting entities were impacted by only one amended provision, some reporting entities may be affected by more than one amended provisions.

Additionally, as previously stated, the State Administrative Manual Sections 6600 – 6680 mandates that state government agencies evaluate economic impacts based on "business" or "company," and this unit of economic impact evaluation is different from the regulated unit of the reporting regulation. Many businesses or companies operate multiple facilities, and each of these facilities may be subject to a different combination of the amended rule provisions. Some businesses/companies have operations that fall under multiple industry sectors. Therefore, additional work is required in order to convert the estimated cost on a facility basis to a company basis.

Staff reviewed each affected facility's parent company information to group them by their parent company. Staff also reviewed each affected facility's emission activities and their reported North America Industrial Classification System (NAICS) codes to sort them into the appropriate industry sector category. A facility that includes operations that fall under multiple industry sectors is assigned to the sector based on its primary NAICS code. Similarly for facilities operated by local and state government entities, staff groups the affected facilities by their common government entity operator.

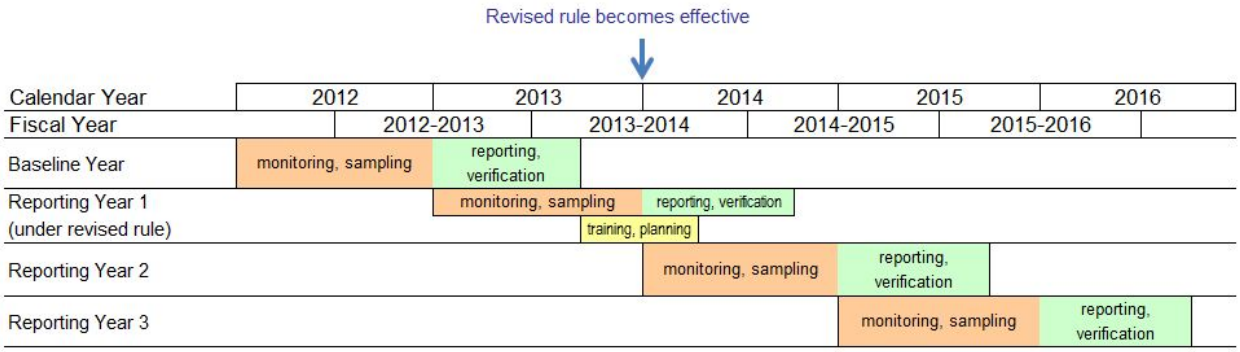
Section A.3.2 describes the methodology that staff employed to estimate the expected incremental costs per reporting account (per "facility" for industrial facilities and power plants, or per company for fuel suppliers) due to each amended rule provision. After summing the incremental costs (from all the amended rule provisions) by industry sector, the average costs per company were calculated by dividing the total sector-wide cost by the estimated number of companies in the sector. Because facilities operated by local and state government entities are treated the same as those owned or operated by private businesses, calculation of costs was done similarly. The cost per entity for local government entities are calculated by summing the incremental costs then divided the sum by the number of entities (not the number of facilities) in the local government

category. Affected state government entities include 5 universities and a state prison, and they are each considered a separate entity.

Annual Cost Summed by Reporting Cycle vs. by Calendar Year

To keep cost accounting on a yearly basis, ARB staff summed the costs by the yearly reporting cycle, which does not coincide with one calendar year. For example, the labor costs for recording fuel use and collecting/analyzing fuel samples are expended during calendar year 1. Labor costs for performing emission calculations, reporting and verification of the year 1 typically occur in calendar year 2. In addition, during calendar year 2, there are new costs for collecting data for the next reporting cycle. Therefore, each calendar year has both cost for the collection of data and the cost for reporting and verification, which makes up the reporting cycle. For purposes of this analysis, each reporting cycle takes into account the collection and reporting and verification costs. Figure VI-2 graphically illustrates the overlap of "reporting year" and "calendar year."

Figure VI-2. Reporting Year and Calendar Year



Time Horizon

A time horizon of 8 years (2014-2021) was chosen for this economic analysis. The year 2014 was chosen as the start of the evaluation period because the amended regulation is proposed to become effective on January 1, 2014. The year 2021 was chosen as the end of the evaluation period because 2020 marks the first major milestone for GHG emission reduction target mandated by AB 32, and the GHG pollutants emitted during calendar year 2020 will be reported and verified in 2021.

A.3.2. Costs of Performing Compliance Tasks

Staff utilized a method similar to an expert elicitation process to estimate the cost components, including labor costs (associated with monitoring, sampling, recording, training, and planning), emissions measurement cost, equipment cost, and verification cost, based on staff's experience in providing support to reporting entities and

verification bodies. The method for estimating each cost component is described below.

Labor Costs

Estimation of Labor Hours

Since the inception of the reporting program in 2008, ARB staff has been working closely with reporting entities in providing technical support for emission calculations, providing training on the rule requirements and the use of the reporting tool, assisting reporters in preparing and submitting electronic emissions data reports, and noting informal feedback from reporters on the time requirements of GHG reporting. ARB staff also works closely with the accredited verifiers to ensure the quality of emissions data reports by observing the on-site practices of reporting entities (observations took place during verification site visits), and collecting informal feedback provided by verifiers and reporters regarding the expenses of GHG reporting and verification. The knowledge gained by ARB staff's direct involvement with reporters and verifiers over the last five years has given staff a clear understanding of the cost and workload associated with implementing this regulation. With this knowledge, staff has estimated the range of costs and hours spent on the following compliance tasks:

- Becoming familiar with rule requirements and the use of the reporting tool, preparing and implementing the GHG monitoring plan, and training facility staff in performing compliance tasks;
- Collecting and analyzing fuel samples, keeping records of fuel analytical data, and calculating emissions at various periodic sampling frequencies;
- Monitoring proper operation of fuel or feedstock measurement equipment and recording consumption data;
- For suppliers of fuels, gathering data required for GHG reporting from their existing database system;
- For oil and gas facilities, complying with the additional monitoring, sampling, testing, and reporting requirements;
- For each applicable sector, performing additional process emissions calculations called for by the respective sections of the proposed amended regulation;
- Entering data, performing quality assurance (QA) checks, and certifying and submitting emissions data report in the reporting tool;
- Coordinating, preparing records for, and hosting verification site visits; and
- Following-up on verification and revising the GHG emissions data report as needed.

ARB staff estimated the incremental time requirements of different compliance tasks that are expected for each amended rule provision. For each provision, a facility may be expected to see only 1 to 4 incremental tasks listed above as a result of the

amendments, even though they may already be performing most of these tasks under the existing regulations.

Cost of Reporting

For the purpose of satisfying the requirements in Section 11346.3 of the Government Code, ARB staff has assessed the labor costs related to reporting emission data ("cost of reporting") as consisting of the costs associated with recordkeeping, submitting data through the web-based reporting tool system, and certifying and submitting the report. These compliances tasks associated with "cost of reporting" consist of a subset of the total reporting costs. Costs for training and planning, fuel sampling and testing, emission monitoring, emission calculation, and third-party verification are not included in the "cost of reporting." "Cost of reporting" and other labor costs are all estimated using the methodology described in this subsection.

It was determined that the amended provision of "allowing onshore oil and gas production facility to use the population count method for estimating emissions leaks" does not result in an incremental change in "cost of reporting," while the other 14 amended rule provisions may lead to a marginal increase in "cost of reporting." Staff estimated the labor costs associated those compliance tasks at a per-facility level for each amended rule provision. The "cost of reporting" per facility is then multiplied by the number of facilities that are impacted by the amended rule provision. The average "cost of reporting" per company is obtained by dividing the total "cost of reporting" by the total number of companies impacted by the rule provision. The total "cost of reporting" for California businesses is estimated to be $69,794 (mid-estimate), and the average "cost of reporting" per company is $411 ($69,794/170 companies).

Table VI-2 summarizes the estimated "cost of reporting" per facility (or per GHG account) in the ongoing years.

Table VI-2. Cost of Reporting

Amended Rule Provision	No. of Private Facilities or Reporting Accounts Affected	Incremental Reporting Cost per Reporting Account ($)
Abbreviated reporter to report fuel use by unit type	86	194
Report biomethane producer information	1	50
GHG monitoring plant for all facilities with >25K of emissions	50	108
Inclusion of hydrogen fuel cell emissions	8	150
Report cogenerated steam used in producing cooling energy	2	397
Separate reports for refineries and fuel suppliers	5	690
Hydrogen production facility to report additional information	20	187
Add reporting of lead production	1	1,117
Lime manufacturing- quantify process CO_2 recaptured	1	172
LDC fuel suppliers report additional customer data	7	203
LNG data reporting if interstate pipeline gas is used	1	380
Report additional covered product data	39	250
Reporting of emulsion from an oil platform	1	709
Onshore oil & gas- new requirement on oil well venting	24	1,037

Reporting Entity Staff's Time in Support of Verification

ARB staff developed time requirement estimates for a facility preparing and hosting the verification site visit. Staff anticipates that some facilities may become newly subject to verification requirements due to the following proposed amendments: inclusion of hydrogen fuel cell emissions, adding reporting of lead production facility, reporting LNG data if interstate pipeline gas is used, and reporting emulsion from an oil platform.

Staff identified the individual tasks associated with verification that facility and fuel supplier staff is expected to do. These tasks may include identifying and acquiring verifier, reviewing the contract, setting up and coordinating a verification site visit, preparing records for verifier review, participating in verification site-visits, and revising emissions data reports after verification. The total labor costs for performing each compliance task were estimated by multiplying the estimated time requirement of the task by a range of wage rates (in $/hour) for the type of facility staff that typically performs the task. Labor costs are estimated for each of the 4 amended regulatory provisions.

For other amended provisions that may increase the amount of time spent by verifiers in data review, but are not likely to lead to a noticeable difference in the amount of time that reporting entity staff may spend on preparing and hosting verification, ARB staff

assumes that the difference in time requirement is negligible and did not separately estimate those labor costs. However, the cost for additional time spent by the verifier is estimated and described in the Cost of Third-Party Verification Service sub-section.

Wage Rate by Staff Class

ARB staff assigned each individual task to a corresponding staff classification. Staff classifications include administrative staff, technical staff, managerial staff, and lawyers. The technical staff classification is further divided: 1) technical staff 1 may include junior engineers, scientists, senior operators, and senior technicians; and 2) technical staff 2 may include mid- to senior- level engineers or compliance specialists.

The U.S. Bureau of Labor Statistics (BLS) 2012 Occupational Employment and Wage Estimates data (BLS 2012) for the state of California are used to construct ranges of wage rates. The wage data for several similar occupations that are likely to perform the compliance tasks are combined together to form the 5 staff classifications in the analysis. For example, the technical staff 2 wage rate range is a composite of wage rates of chemical, civil, environmental, industrial, mechanical, and health and safety engineering occupations. The minimum 25th percentile, the maximum 75th percentile, and the average of the median wage rate values in the BLS data set are used as low, high, and mid estimates, respectively.

To account for the total labor costs incurred by the reporting entities, which may include employee benefits and overhead costs, staff applied the same adjustment factors that U.S. EPA used in estimating the economic impacts of the federal GHG reporting program (USEPA 2009a). These adjustment factors are a “benefit loading factor” of 0.5 and an “overhead loading factor” of 0.17. In other words, the ranges of wage rates extracted from BLS data are scaled up by a factor of 1.67 to obtain the final “loaded wage rate” numbers for the labor cost analysis. The resulting loaded wage rates for the 5 facility staff classes in 2012 dollars are summarized in Table VI-3.

Table VI-3. Wage Rates Used to Estimate Labor Costs

Facility Staff Class	Loaded Wage Rate ($/ hour)		
	Low	Mid	High
Administrative	20.61	23.91	28.52
Technical 1	35.29	50.05	70.17
Technical 2	53.01	72.12	80.48
Managerial	76.99	91.96	117.95
Lawyer	80.19	111.26	142.32

To estimate the labor costs of each facility type that will be affected by the amended rule in different ways, the labor costs of the applicable compliance task are summed to obtain the total incremental labor costs of the amended GHG reporting rule.

Equipment and Material Costs

Staff does not anticipate that the affected facilities will need to purchase new equipment to comply with the amended regulatory requirements. They should already have the necessary equipment in place for GHG reporting due to the existing California reporting regulation, other federal or local requirements, or normal industry practices. However, staff anticipates that to comply with the proposed amended requirement of determining the carbon and hydrogen content of feedstock, hydrogen production facility operators may need to purchase additional calibration gases for existing process instrumentation. Based on the price of calibration gas offered by gas vendors, the cost of additional calibration gas is estimated to be $240/year.

Cost of Third-Party Verification Service

In working closely with the accredited verifiers and collecting feedback informally provided by verifiers and reporters, ARB staff has compiled estimated ranges of verification service fees that reporting entities spent to comply with the existing verification requirements.

For facilities that will be newly subject to verification requirements (due to inclusion of hydrogen fuel cell emissions, adding reporting of lead production facility, reporting LNG data if interstate pipeline gas is used, or reporting of emulsion from an oil platform), the cost of verification service is estimated as follows. Using the ranges of verification service fees and the estimated time requirements for verifiers to perform specific verification-related tasks, staff estimated the likely ranges of verification service fees, which could either be an intensive verification or less-intensive verification. Most facilities will need to go through an intensive verification at least once every 3 years, and it is assumed that for the other 2 years, approximately half of the facilities will have no major issues to warrant an intensive verification and a less-intensive verification will suffice.[1] Staff estimated the ranges of verification service fees and the time requirements for facility staff to perform various verification-related tasks during both intensive and less-intensive verifications, and applied these costs to each facility type that is expected to see an incremental change to verification-related costs. The annual verification cost in the on-going years is a composite of the cost expected for a typical intensive verification year and a typical less-intensive verification year, where each is weighted equally at 50%.

For facilities that are already subject to verification requirements but are affected by the amended regulatory provisions that require new data to be reported and reviewed by the verifiers, there may be a marginal increase in the amount of time verifiers need to spend on data review. ARB staff anticipates that the verifiers will likely incorporate the

[1] A site visit and new contract establishment is not required for less-intensive verification, which reduces labor costs associated with verification by approximately 40%-50% when compared to a year in which intensive verification is needed.

additional review time into the existing verification service fee charged to the reporters, and the reporters likely will not see a difference in verification service fee. However, using similar approach for estimating labor costs described in the previous sections, ARB staff conservatively included an estimation of the marginal increase in verification service fee as follows. For reporting of new covered product data and reporting of completion and workover emissions from oil wells, ARB staff estimated that the verifiers may spend an additional 4 to 6 hours on reviewing the new data. Based on staff's experience working with verifiers and reporters and collecting informal feedback, staff estimated that a verifier's average charge rate is in the range of $100-$150 per hour. Multiplying the estimated labor hours and the hourly charge rate, a marginal increase in verification cost of $625 ($400-$900) per facility can be expected.

For the proposed provision requiring refineries to report refinery and fuel supplying operations separately, there is no new data to be reviewed as a result of the amended regulation, and the reporter will likely keep the same verifier after one existing report is split into two separate reports. ARB staff estimated a 15% increase in overall verification service cost to account for the incremental increase in verification service fee that the verifiers may charge for performing overhead tasks associated with preparing an extra verification plan and report. The overall verification cost for one refinery emissions data report is estimated using the same approach as for new verification cost described earlier in this section.

Oil and Gas Sector

For the two proposed provisions affecting onshore oil and gas production facilities (i.e., allowing the use of population count method, and requiring the measurement and reporting of well completion and workover emissions from all oil wells), ARB staff leveraged information available in existing publications and cost estimation performed by the U.S. Environmental Protection Agency (U.S. EPA) to assess the incremental costs to the onshore oil and gas production facility operators.

Cost Saving Resulted from Allowing Population Count Method for Quantifying Fugitive Leak Emissions

By allowing the use of the population count method to quantify fugitive leak emissions, oil and gas facility operators would not be required to use the more expensive quantification method that is required by the extant regulation. A cost saving is anticipated due to this proposed rule amendment, and the saving is estimated as follows.

As a part of the Natural Gas Star Program, U.S. EPA has evaluated the costs and benefits of Directed Inspection and Maintenance Programs (U.S. EPA 2003). U.S. EPA found that approximately 40 components per hour can be screened using an organic vapor analyzer or a toxic vapor analyzer. If the proposed amendment is not implemented, Western State Petroleum Association estimated an additional 900,000 components that would require fugitive leak screening as required by the extant regulation. (The estimate was provided in a previous communication with ARB staff.) The time necessary to do the required screening is approximately 22,500 personnel

hours (900,000 components / 40 components per hour). Assuming the same labor cost of $50/hour that U.S. EPA used in its estimation (which is equivalent to the medium loaded wage rate of a Technical 1 staff listed in Table VI-3), the cost for screening would be approximately $1,125,000 for the entire oil and gas sector. The estimated cost per company is then calculated by dividing the $1,125,000 state-wide sum by the number of affected companies in the sector. Because the proposed amendment provides a cheaper alternative to the existing requirement, the affected operators would see a cost saving from the proposed amendment.

Cost Increase Resulted from Requiring Measurement and Reporting of Well Completion and Workover Emissions from All Oil Wells

Three types of incremental cost are expected from this proposed amended provision:

1. Cost of measuring emissions from completion and workover jobs performed on oil wells.
2. Incremental labor cost expanded by oil and gas facility staff on recordkeeping and preparing emissions data reports for the additional data required by this provision.
3. Incremental increase in verification service fee due to the additional time the verifiers may spend on reviewing the new data.

For the incremental labor cost and verification service fee, ARB staff employed the same estimation method as described in the previous sub-sections. For the cost of measuring emissions from all oil wells, staff used the following estimation approach.

The California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) published a report summarizing the numbers of new wells drilled between 2008 and 2012 in the State (DOGGR 2012). The DOGGR data do not distinguish between gas and oil wells and do not provide statistics on the number of workover jobs done during those years. ARB staff leveraged information from a 2007 oil and gas survey conducted by ARB's Stationary Source Division (SSD 2007) to formulate estimated parameters for filling the data gap. The expected number of completion and workover jobs per year for the entire oil and gas sector is estimated by applying a ratio of the numbers of gas and oil wells and a ratio of the numbers of completion and workover jobs informed by the 2007 survey.

In the 2007 survey, the oil and gas sector reported 117 new gas well completed, 2,061 new oil well completed, and 17,353 oil well worked-over, resulting in a total of 19,414 completion and workover jobs performed on oil wells in 2007. (Each existing or new oil well can be worked-over multiple times in a year, and the number of new well completion and well workovers can vary from year to year.) ARB staff assumed a workover to completion ratio of 8.42 and a gas to oil well ratio of 0.057 can be applied for estimation purposes.

ARB staff took an average of the numbers of new well completed between 2008 and 2012 (2,330) and applied the gas to oil well ratio of 0.057 to obtain an estimated average number of new oil wells completed per year. This produced an estimate of

2,198 oil well completions (2330 x (1-0.057)). To estimate the number of workover jobs per year, the estimated number of complete is multiplied by the workover to completion ratio of 8.42, resulting in an estimate of 18,507 workover jobs per year. Summing the number of completion and workover jobs, it is anticipated that on average, the oil and gas sector may be required to perform as many as 20,705 completion and workover jobs per year (middle-estimate).

To estimate the cost per completion or workover job, ARB staff referenced an existing cost estimate prepared by the U.S. EPA Natural Gas Star Program staff (U.S. EPA 2012). U.S. EPA staff estimated that a Reduced Emissions Completion (REC) job costs approximately $700-$6,500 per day. The measurement of vented gas volume part of a REC job is equivalent to the requirement imposed by the proposed regulatory provision, and it represents a very small fraction of the total REC cost. A typical well clean-up/workover or completion job may take 3-10 days to complete. Therefore, conservatively assuming that 10% of the lower end of the REC cost ($700 x 10% = $70) is related to the required vented gas volume measurement, multiplying the cost per day ($70) by 3 to 10 days provides a range of cost between $210 and $700 per job. The average of the high and low estimates is $455 per completion or workover job.

Multiplying the middle-estimate of the cost per job ($455) by the expected number of jobs to be performed in a year (20,705) in the entire sector, staff estimated that the cost to measure emissions from oil well completion and workover required by the proposed provision would cost the oil and gas sector $9.2 million per year. The cost per company is then calculated by dividing $9.2 million by the number affected companies in the oil and gas sector.

State and Local Government

GHG reporting as specified is mandatory for any facility or entity that meets the regulation's applicability requirements. Therefore, some public agencies are subject to reporting, such as certain county or city owned sewage treatment works or landfills, local municipal utility districts or electric retail providers, some State universities, and other State facilities that emit more than 10,000 metric tons of CO_2e from stationary combustion sources.

Staff reviewed the list of currently reporting entities and identified 28 facilities operated by local government entities and 6 operated by state government entities may be impacted by the proposed regulation amendments. Because a local government entity may operate multiple facilities that are each subject to the reporting regulation, there are 21 local government entities impacted by the proposed amendments. However, the affected state government entities are each considered a separate entity for the purpose of this economic impact analysis. The 28 facilities operated by local agencies are listed in Table VI-4, and the 6 facilities operated by state government entities are listed in Table VI-5.

Table VI-4. List of Affected Local Government Entities

Local Government Entity	Affected Facilities
City of Palo Alto	City of Palo Alto Water Quality Control Treatment Plant
City of Pasadena	Pasadena Water and Power, Glenarm
City of Riverside	City of Riverside, Public Works Department, Regional H2O Plant
City of San Diego	Public Utilities Dept, Point Loma Treatment Plant Public Utilities Dept, Pump Station 2
City of San Jose/Santa Clara	San Jose/Santa Clara Water Pollution Control Plant
County of LA	Olive View Medical Center, Los Angeles County Department of Health Services
County of Sacramento	Kiefer Landfill, Department of Waste Management and Recycling
County of Sonoma	Sonoma County Landfill Gas to Energy
Dublin San Ramon Services District	Dublin San Ramon Services District
East Bay MUD	East Bay Municipal Utility District
Encina Wastewater Authority	Encina Water Pollution Control Facility
Imperial Irrigation District	Imperial Irrigation District (IID), Niland Gas Turbine Plant
John Wayne Airport Orange County	John Wayne Airport Orange County
LA County Sanitation District	Calabasas LF Puente Hills Landfill Spadra Landfill
LA Department of Water & Power	Haynes Generating Station Valley Generating Station
Northern California Power Agency	Geothermal Plant No. 1 Geothermal Plant No. 2
Orange County Sanitation District	Orange County Sanitation District - Plant 1 Orange County Sanitation District - Plant 2
Plumas-Sierra Rural Electric Cooperative	High Sierra Cogeneration
Southern California Public Power Authority	BWP/MPP Electricity Generating Facilities at 164 W. Magnolia
San Francisco International Airport	San Francisco International Airport (SFO)
Sacramento Municipal Utility District	Sacramento Municipal Utility District (SMUD) , Cosumnes Power Plant

Table VI-5. List of Affected State Government Entities

Affected State Government Entities
Avenal State Prison
California Polytechnic State University
California State University, Fullerton
University of California, Riverside, UCR
University of California, Santa Barbara
University of California, Santa Cruz, UCSC EH&S Office

Since the proposed regulatory amendments apply the same to affected facilities regardless of public or private ownership, the same cost estimation methodology used for privately-owned facilities was used for local and state government entities. To estimate the total costs to the affected local government entities, staff multiplied the

expected incremental cost per facility by 28 facilities, then divide the total cost by 21 local government entities to obtain the incremental cost per entity. The cost estimation results are presented in Section A.4.

Small Businesses

As a part of the 2012 regulation amendment, a reporting provision was added instructing reporters to indicate in their emissions data report whether they qualify for "small business entity" status pursuant to California Government Code Section 11342.610 (CGC 2012). Twenty-five reporters claimed small business entity status in their 2012 emissions data reports. Seven of which are expected to see a cost impact due to the amended rule provisions.

ARB staff verified the small business status of each of these reporting entities by conducting a detailed review of their corporate owner information and electricity generation and transmission information (if the reporting entity operates a power plant or is an electric utility or marketer), as well as conducting research on their parent company to determine the size and dominance. It was determined that none of these reporters qualify for small business status based on the California Government Code Section 11342.610 definition. The process for verifying small business status is described in this section.

A small business, is defined by the California Government Code Section 11342.610 (CGC 2012) as:

> *(a) "Small business" means a business activity in agriculture, general construction, special trade construction, retail trade, wholesale trade, services, transportation and warehousing, manufacturing, generation and transmission of electric power, or a health care facility, unless excluded in subdivision (b), that is both of the following:*
>
> > *(1) Independently owned and operated.*
> > *(2) Not dominant in its field of operation.*
>
> *(b) "Small business" does not include the following professional and business activities:*
>
> > *(1) A financial institution including a bank, a trust, a savings and loan association, a thrift institution, a consumer finance company, a commercial finance company, an industrial finance company, a credit union, a mortgage and investment banker, a securities broker-dealer, or an investment adviser.*
> > *(2) An insurance company, either stock or mutual.*
> > *(3) A mineral, oil, or gas broker.*
> > *(4) A subdivider or developer.*
> > *(5) A landscape architect, an architect, or a building designer.*
> > *(6) An entity organized as a nonprofit institution.*

(7) An entertainment activity or production, including a motion picture, a stage performance, a television or radio station, or a production company.
(8) A utility, a water company, or a power transmission company generating and transmitting more than 4.5 million kilowatt hours annually.
(9) A petroleum producer, a natural gas producer, a refiner, or a pipeline.
(10) A manufacturing enterprise exceeding 250 employees.
(11) A health care facility exceeding 150 beds or one million five hundred thousand dollars ($1,500,000) in annual gross receipts.

(c) "Small business" does not include the following business activities:

(1) Agriculture, where the annual gross receipts exceed one million dollars ($1,000,000).
(2) General construction, where the annual gross receipts exceed nine million five hundred thousand dollars ($9,500,000).
(3) Special trade construction, where the annual gross receipts exceed five million dollars ($5,000,000).
(4) Retail trade, where the annual gross receipts exceed two million dollars ($2,000,000).
(5) Wholesale trade, where the annual gross receipts exceed nine million five hundred thousand dollars ($9,500,000).
(6) Services, where the annual gross receipts exceed two million dollars ($2,000,000).
(7) Transportation and warehousing, where the annual gross receipts exceed one million five hundred thousand dollars ($1,500,000).

In verifying each reporting entity's small business status, ARB staff used the following interpretations of the definition:

- "Independently owned and operated" means the facility is owned by individual private investors. The facility is not owned by a large corporation with indistinguishably numerous investors or have multiple subsidiaries each with its own brand name in its field of operation. (CGC Section 11342.610(a)(1))
- A supplier of natural gas or petroleum fuel is an "oil or gas broker." (CGC Section 11342.610(b)(3))
- An electricity generating facility with a primary NAICS code that starts with 22 is "a utility or a power transmission company." If the electricity generating facility generates more than 4.5 million kilowatt hours annually, it is not considered "small." (CGC Section 11342.610(b)(8))
- An electricity importer/exporter, retail provider, or marketer is "a utility or a power transmission company." If the electricity entity transacted or transmitted more

than 4.5 million kilowatt hours annually, it is not considered “small.” (CGC Section 11342.610(b)(8))

After reviewing all the available information gathered from their emissions data reports and from additional research on parent companies, it was determined that there are no small business entities captured by the reporting regulation.

A.4. Economic Impacts of Proposed Regulation

This section presents the results of staff’s analysis of the economic impacts of the proposed regulation. ARB staff first presents a state-wide overview of the cost impacts by affected sectors, which include all of the affected entities in the private and public sectors. The following subsections discuss the impacts on private businesses, small businesses, state and local agencies, consumers, employment, business creation and elimination, and California business competitiveness.

A.4.1. Overview of State-Wide Costs

Only the direct incremental costs of complying with the proposed rule amendments are included in this analysis. Using the methods described in Section A.3, staff’s estimates of the cost impacts for each affected sectors are summarized in Tables VI-6a, VI-6b, VI-7a, and VI-7b (next page), which include all the affected entities in the private and public sectors. Although a range of costs was estimated for each of the cost numbers presented in these tables, only the middle-estimate values are shown to streamline the presentation. These estimated numbers are not meant to be a precise projection of the costs; however, the numbers are not rounded for the purpose of facilitating reviews under the state administrative procedures.

Table VI-6a. Sector-Wide Incremental Cost Impacts for Private Industry Sectors

			Sector-Wide Incremental Costs (2012$)[2]		
Industry Sector	Number of Affected Companies[1]	Number of Affected Reporting Entities[1]	1st-Year	On-going Years	8-Year Cost[3]
Oil & Gas Production	17	27	8,150,088	8,140,918	55,138,715
Petroleum Refineries	9	14	54,692	38,587	277,416
Food Manufacturing	33	58	56,211	35,212	259,451
General Stationary Fuel Combustion Facilities	59	76	77,052	22,610	207,554
Power Generation	35	55	59,938	8,185	107,179
Hydrogen Production	3	7	19,329	12,084	89,077
Lead Production	1	1	15,715	11,477	81,958
Lime Manufacturing	1	1	3,223	2,923	20,094
Fuel Supplier	11	11	4,868	2,201	17,574
Glass Production	1	1	861	194	1,983
Total	170	251	8,441,978	8,274,392	56,201,001

1. As defined in the GHG reporting regulation, a reporting entity is a facility, a supplier of fuel or CO_2, or an electric power entity. A business or a company may operate multiple facilities (and therefore multiple reporting entities) that are each subject to the reporting regulation and may each be impacted by the amendments differently. For the operator of industrial facilities, the point of regulation or the regulated unit is a facility, not its company.

2. Although a range of conservatively high and conservatively low costs were estimated, the table only shows the middle-estimate values for the purpose of streamlining the presentation and facilitating administrative review.

3. Future costs are discounted at 5%. A time horizon of 8 years is used for the regulation implementation from 2014 to 2021.

Table VI-6b. Estimated Average Incremental Cost Impacts for an Average Business Entity

		Incremental Costs per Business Entity (2012$)[1]		
Industry Sector	Number of Affected Companies	1st-Year	On-going Years	8-Year Cost[2]
Oil & Gas Production	17	479,417	478,878	3,243,454
Petroleum Refineries	9	6,077	4,287	30,824
Food Manufacturing	33	1,703	1,067	7,862
General Stationary Fuel Combustion Facilities	59	1,306	383	3,518
Power Generation	35	1,713	234	3,062
Hydrogen Production	3	6,443	4,028	29,692
Lead Production	1	15,715	11,477	81,958
Lime Manufacturing	1	3,223	2,923	20,094
Fuel Supplier	11	443	200	1,598
Glass Production	1	861	194	1,983

1. Incremental costs for an average business entity are calculated by dividing the sector-wide total by the number of affected companies in the sector. Although a range of conservatively high and conservatively low costs were estimated, the table only shows the middle-estimate values for the purpose of streamlining the presentation and facilitating administrative review.

2. Future costs are discounted at 5%. A time horizon of 8 years is used for the regulation implementation from 2014 to 2021.

Table VI-7a. Incremental Cost Impacts for Local and State Government Entities

			Sector-Wide Incremental Costs (2012$)[2]		
Industry Sector	Number of Affected Government Entities[1]	Number of Affected Reporting Entities[1]	1st-Year	On-going Years	8-Year Cost[3]
Local Government Entities	28	21	24,239	5,263	54,617
State Government Entities	6	6	6,028	1,360	13,878
Total	28	34	30,267	6,623	68,495

1. As defined in the GHG reporting regulation, a reporting entity is a facility, a supplier of fuel or CO_2, or an electric power entity. A government entity may operate multiple facilities (and therefore multiple reporting entities) that are each subject to the reporting regulation and may each be impacted by the amendments differently. The point of regulation or the regulated unit is a facility, not a government entity.

2. Although a range of conservatively high and conservatively low costs were estimated, the table only shows the middle-estimate values for the purpose of streamlining the presentation and facilitating administrative review.

3. Future costs are discounted at 5%. A time horizon of 8 years is used for the regulation implementation from 2014 to 2021.

Table VI-7b. Estimated Average Incremental Cost Impacts for an Average Local or State Government Entity

		Incremental Costs per Government Entity (2012$)[1]		
Industry Sector	Number of Affected Government Entities[1]	1st-Year	On-going Years	8-Year Cost[2]
Local Government Entities	21	1,154	251	2,601
State Government Entities	6	1,005	227	2,313

1. Incremental costs for an average government entity are calculated by dividing the sector-wide total by the number of affected government entities in the sector. Although a range of conservatively high and conservatively low costs were estimated, the table only shows the middle-estimate values for the purpose of streamlining the presentation and facilitating administrative review.

2. Future costs are discounted at 5%. A time horizon of 8 years is used for the regulation implementation from 2014 to 2021.

As shown in Tables VI-6a and VI-6b, the proposed rule amendment is expected to have a state-wide incremental cost of $8 million annually on private businesses. Using a discount rate of 5% and a time horizon of 8 years, the total incremental cost increase is approximately $56 million over 8 years. Approximately 98.1% of the total costs to private businesses occur in the oil and gas sector. Annually, an average business entity in the oil and gas sector can expect to see a cost increase of $479,000 per year, and a lead production facility that is newly captured by the reporting regulation can see a cost increase of $15,700 in the initial year and $11,500 in the ongoing years. The annual costs to the remaining facilities and fuel suppliers range between $200 and $4,000.

As shown in Tables VI-7a and VI-7b, the proposed rule amendment is expected to have an annual state-wide incremental cost of $30,000 in the first year and $6,600 in the ongoing years for state and local government entities. The total incremental cost increase is approximately $68,500 over 8 years. Annually, an average government entity can expect to see a cost increase in the low-$1,000's range in the initial year, and less than $300 in the ongoing years. The average 8-year cost per government entity is in the mid-$2,000 range.

A.4.2. Discussions of Impacts

Impacts to California Businesses

The proposed GHG reporting regulation focuses on the largest stationary sources of GHG emissions and other sources that must be included for an effective cap-and-trade program. The specific incremental 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 future requirements under this proposal.

For an individual reporting entity (which may either be an industrial facility or a fuel supplier, as defined in the GHG reporting regulation), the incremental cost per entity could range widely. Incremental costs for typical businesses (other than those in the oil and gas production sector) subject to the proposed amendments will generally be small for facilities that are already subject to current GHG reporting programs, because the bulk of the baseline costs will be incurred complying with the existing ARB reporting regulation.

With the proposed amendments, ARB staff anticipates additional costs during the initial year for certain facility types, as reporters become familiar with the new requirements, update or develop GHG monitoring plans, and develop expertise with the new reporting systems and methods. However, ARB staff anticipates industry costs to decline over time as the amended GHG reporting requirements become incorporated into standard facility practices. See Tables VI-6b and VI-7b for the estimated cost per reporting entity.

The main sources of uncertainties in the economic impact analysis are from the ranges of wage rates in the U.S. Bureau of Labor Statistics data and the ranges of the estimated time requirement to perform compliance tasks. A high estimate represents the scenario in which the affected entity uses staff whose salary is high in their

respective staff classifications, and the amount of time that the high-salaried staff takes in doing the compliance tasks is also on the high end of the range of estimates. On the other hand, a low estimate represents the scenario in which the affected entity uses staff whose salary is on the low side of the wage rate range, and each staff takes little time to accomplish the compliance tasks. The high and low estimates are calculated for bounding purposes, and they are extremely unlikely in reality because private businesses tend to minimize cost by maximizing efficiency. When factoring in all uncertainties in either direction, the net costs are likely to be close to the middle estimates.

Impacts to Small Businesses

As explained in section A.3.2, the *Small Businesses* sub-section, staff has determined that the proposed regulation amendment does not impact any small businesses. There are no small business entities captured by the reporting regulation.

Impacts to California State and Local Agencies

Staff has determined that the proposed amendments will have marginal impacts on GHG emitting facilities operated by local and state government entities (e.g., landfills, wastewater treatment plant, municipality-owned power plants, state universities and prison facilities). Using the methods described previously, we estimated that the affected local government entities will see a marginal cost increase ranging from $300 to $1,200 per year. These local and state government entities are expected to absorb the incremental costs with existing staff and operation budget.

Adoption of the proposed amendments is expected to require continued funding for ARB to administer the program. The amendments will be implemented using existing ARB staffing, and no change in staffing level is needed to administer the program under the amended rule. Any ARB 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.

Potential Impact on Consumers

No noticeable change in consumer prices is expected from the amendments to the reporting regulation because the compliance costs will have only a minor impact on the affected businesses.

Impact on Employment

Since the incremental compliance costs associated with the amended GHG reporting regulation impose only a very small impact on California businesses, staff expects no significant change in employment due to the regulation amendments.

Impact on Business Creation, Elimination, or Expansion

No change is expected to occur in the status of California businesses as a result of the amendments to the reporting regulation. This is because the proposed amendments are expected to impose only minor costs on businesses in California. However, staff

anticipates that existing contractors that perform work for the oil and gas sector may expand to meet additional needs, and existing consulting businesses that assist regulated entities with emissions reporting and verification may see new business opportunities as the result of the proposed amendments.

Staff does not anticipate there will be noticeable changes in the number of businesses created, eliminated, or expanded as the result of the propose regulation. Existing firms will likely attempt to absorb as much of the new workload as possible.

Impacts to California Business Competitiveness

The reporting regulation amendments would have little or no 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. In addition, most businesses affected by the regulation are power plants or other local manufacturing operations serving California customers, and may not be strongly subject to interstate competition. However, the proposed regulation could have an adverse impact on the ability of some California businesses operating with little or no margin of profitability to compete with businesses in other states.

B. Major Regulations

Health and Safety Code section 57005 requires ARB to perform an economic impact analysis of submitted alternatives to the proposed regulation before adopting any major regulation. For purposes of this section, “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) in any single year, 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. ARB staff has determined that the amendments to the proposed regulations are not a major regulation as defined above.

C. Reasonable Alternatives to the Regulation and the Agency’s Reason for Rejecting those Alternatives

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. Since 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 one in which no regulatory amendments would be made and ones in which the specific amendments to various sector requirements are compared to harmonization with the

applicable U.S. EPA rule requirements or data collected from other sources, were considered. Alternatives considered and staff's recommendations regarding these alternatives are found in section D of Chapter II of this report.

D. Significant Adverse Economic Impact Directly Affecting Business

The proposed regulatory action would not have a significant statewide adverse economic impact directly affecting businesses. The incremental cost impacts for a majority of the businesses are between $200 and $3,200 per year and can be easily absorbed into their normal cost of operation. The oil and gas production companies that may see a higher incremental cost typically have an annual revenue of several million dollars per year. The cost impact of the proposed action is an insignificant fraction of their total revenue.

E. Justification for Adopting Regulations Different from 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 does not believe the proposed regulation is inconsistent with existing federal law. In fact, this proposed amended regulation was developed to minimize, to the greatest extent possible, any redundant State and federal reporting, while also ensuring that ARB is collecting the necessary additional information required by California's various GHG programs, including the cap-and-trade regulation, fee regulation, and the statewide GHG inventory.

VII. SUMMARY AND RATIONALE FOR EACH REGULATORY PROVISION

This chapter of the staff report provides a summary of each specific change to the reporting regulation and the reason, or rationale, for the change. Any sections of the reporting regulation without changes are not included in this summary and rationale section**.**

Amendments to the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions

Subarticle 1.

General Requirements for Greenhouse Gas Reporting

Section 95101. Applicability.

This section of the reporting regulation specifies which facilities and entities are subject to greenhouse gas emissions reporting under the reporting regulation. It also specifies methods for determining applicability, which entities are excluded from reporting, the

requirements for demonstrating lack of applicability, and the requirements for ceasing reporting if applicability is no longer met.

Summary of Proposed Updates Section 95101(a)(1)(B)

This modification explicitly indicates that CO_2, CH_4 and N_2O are the only greenhouse gases that need to be considered for the applicability threshold.

Rationale for Proposed Updates Section 95101(a)(1)(B)

This change is necessary to ensure that only CO_2, CH_4 and N_2O emissions are used for the applicability determination.

Summary of Proposed Updates Section 95101(a)(1)(B)(8)

Operators of lead production facilities are added as a new reporting sector in the regulation.

Rationale for Proposed Updates Section 95101(a)(1)(B)(8)

This change is necessary to make lead production facilities in California subject to GHG reporting requirements when they are above the reporting threshold of 10,000 MT CO_2e per year.

Summary of Proposed Updates Section 95101(a)(1)(G)

This new subsection allows flexibility by making facilities in these industrial sectors in 40 CFR part 98 subject to GHG reporting requirements when they meet the applicability threshold. Facilities in these new sectors are not currently covered in the reporting regulation because ARB had not identified any of them as operating in California. This change allows flexibility to immediately require GHG reporting if and when a facility begins operation rather than go through a separate regulatory update each time to add sectors separately.

Rationale for Proposed Updates Section 95101(a)(1)(G)

This change is necessary to ensure that if any of the noted sectors commence industrial processes in California, they will be required to report consistent with U.S. EPA 40 CFR part 98 requirements.

Summary of Proposed Updates Section 95101(a)(2)

Removed historical references to prior data years.

Rationale for Proposed Updates Section 95101(a)(2)

For consistency, reference to prior data reporting years has been removed.

Summary of Proposed Updates Section 95101(a)(3)

This update was added to ensure reporting is facilitated by the same responsible party throughout an entire compliance period.

Rationale for Proposed Updates Section 95101(a)(3)

To support the Cap-and-Trade program, this update ensures consistency in reporting and verification responsibilities, in situations of common ownership or common control.

Summary of Proposed Updates Section 95101(b)

The phrase “using the requirements of 40 CFR §98.2(b)-(c), except” was removed and the term “industrial” was removed.

Rationale for Proposed Updates Section 95101(b)

This change is necessary to ensure the applicability determination is done correctly and is consistent with the changes in sections 95101(b)(1)-(6). The term industrial was removed because some reporters subject to the regulation, such as universities, questioned if they were “industrial” facilities so the term was removed to remove ambiguity from the applicability requirements.

Summary of Proposed Updates Section 95101(b)(1)

This update adds the terms CO_2, CH_4, and N_2O for the purposes of performing emissions threshold analysis.

Rationale for Proposed Updates Section 95101(b)(1)

This change is necessary to clarify that CO_2, CH_4, and N_2O are the only greenhouse gases subject to reporting. The inclusion of this language removes ambiguity by explicitly stating that only these three gases are to be included in the threshold analysis will prevent uncertainty in determining applicability.

Summary of Proposed Updates Section 95101(b)(2)

Added language to clarify that vented and fugitive emissions must also be included in the total facility emissions to be compared with the 25,000 metric ton CO_2e threshold specified in sections 95103(a) and 95103(f). If these emissions exceed the 25,000 metric ton CO_2e threshold, the reporting entity must submit a full GHG emissions data report and obtain verification service. Staff also added the citation for referencing the 10,000 metric ton CO_2e threshold.

Rationale for Proposed Updates Section 95101(b)(2)

This proposed language is added for clarity in response to feedback received from stakeholders during program implementation. It is necessary to ensure reporting entities understand the reporting threshold.

Summary of Proposed Updates Section 95101(b)(6)

Proposed new language adds emissions from hydrogen fuel cell units to the 10,000 metric ton CO_2e applicability thresholds.

Rationale for Proposed Updates Section 95101(b)(6)

This change was necessary to address a growth in installation of new hydrogen fuel cell units was observed in the past few years. To ensure accurate numbers are used for the state-wide GHG inventory, emission calculation methods for hydrogen fuel cells are added to section 95112(f). The new paragraph 95101(b)(6) specifies that reporters must also include hydrogen fuel cell emissions in applicability determination when comparing to the 10,000 and 25,000 metric ton CO_2e thresholds.

Summary of Proposed Updates Section 95101(c)(1)

The term 'refineries' was changed to 'refiners.'

Rationale for Proposed Updates Section 95101(c)(1)

This update provides clarification for reporting in section 95121 and is consistent with the term defined in section 95102(a).

Summary of Proposed Updates Section 95101(c)(5)

The term 'imported' was added to the subparagraph to clarify this applicability rule is applicable only to consignees of imported compressed natural gas and liquefied natural gas.

Rationale for Proposed Updates Section 95101(c)(5)

This change was necessary to ensure consistent interpretation of reporting requirements for imported compressed natural gas and liquefied natural gas.

Summary of Proposed Updates Section 95101(c)(10)

Subparagraph (10) requires liquefied natural gas production facility operators to report GHG emissions, subject to the applicability thresholds, if the facility receives gas for liquefaction from an interstate natural gas pipeline.

Rationale for Proposed Updates Section 95101(c)(10)

This change was necessary to ensure complete reporting of all natural gas supplied within California.

Summary of Proposed Updates Section 95101(f)(8)

This subsection listing the exceptions to sectors where U.S. EPA GHG reporting was not required in California was removed from the regulatory text.

Rationale for Proposed Updates Section 95101(f)(8)

This change was made to ensure the modifications made to section 95101(a)(1)(G) were not contradicted.

Summary of Proposed Updates Section 95101(f)(9)

This subsection was renumbered due to the deletion of section 95101(f)(8).

Rationale for Proposed Updates Section 95101(f)(9)

This change was made to ensure consistent section numbering.

Summary of Proposed Updates Section 95101(h)

New proposed language clarifies that a reporting entity covered under the Cap-and-Trade program must continue to comply with all reporting requirements until there is no longer a compliance obligation. The new language also provides instruction for how reporting entities should determine the number of additional years that they must continue to report before they can exit the reporting program.

Rationale for Proposed Updates Section 95101(h)

This change is necessary to ensure the cessation of reporting requirements are unambiguous. The original cessation of reporting requirements were adapted from 40 CFR part 98, which does not collect data to support a Cap-and-Trade program. The added language to this section clarifies that a reporting entity must first follow the Cap-and-Trade program applicability requirements until they are no longer subject to them. Once the Cap-and-Trade applicability ends, the reporting entity must then follow the reporting cessation requirements to exit the reporting program.

Summary of Proposed Updates Section 95101(h)(3)

Existing paragraph 95101(h)(3) is deleted. Paragraphs are renumbered so that the formerly paragraph 95101(h)(4) now becomes paragraph 95101(h)(3). The words "verify" are removed from the renumbered paragraph 95101(h)(3).

Rationale for Proposed Updates Section 95101(h)(3)

This is change is necessary because the cessation of verification requirements were expanded to section 95101(i). Section 95101(h) is now dedicated to cessation of reporting, while the new section 95101(i) is now dedicated to cessation of verification. These rule changes are made for clarity.

Summary of Proposed Updates Section 95101(i)

This new section clarifies the existing cessation of verification requirements. Reporting entities are required to notify ARB if they meet verification cessation requirements and intend to no longer obtain verification services. Reporting entities subject to the Cap-and-Trade regulation continue to verify emissions data reports until they no longer have a compliance obligation. In other words, when a reporting entity has met the reporting cessation requirements and no longer submits an emissions data report, verification

also ends.

Rationale for Proposed Updates Section 95101(i)

This change is necessary to clarify existing cessation of verification requirements.

Summary of Proposed Updates Section 95101(i)(1)

This change specifies cessation of verification requirements that are applicable to reporting entities that shut down. Verification is not required for the emissions data report during the first full calendar year of non-operation that follows shut down.

Rationale for Proposed Updates Section 95101(i)(1)

The proposed change is needed to clarify the verification requirements.

Summary of Proposed Updates Section 95101(i)(2)

Only the first year in which a power entity ceases to import or export power, is required to be verified. Verification is not required for the emissions data report during the first full calendar year of non-operation that follows.

Rationale for Proposed Updates Section 95101(i)(2)

The change is needed to clarify the verification requirements.

Summary of Proposed Updates Section 95101(i)(3)

Facility operators or suppliers not subject to the Cap-and-Trade regulation and that drop below the verification threshold may elect to cease verification during the second data year emissions are below the verification threshold.

Rationale for Proposed Updates Section 95101(i)(3)

The update is needed to clarify the verification requirements.

Section 95102. Definitions.

This section defines all key terms used in the regulation that may not be in common use or which may potentially be ambiguous without a regulatory definition. Definitions have been edited, added, and in some cases, removed to clarify the meaning and intent of the regulation.

Summary of Proposed Updates Section 95102(a)

Additions to this section are designed to ensure consistent interpretation of the reporting requirements and include: additions to support electric power entity reporting, clarifications to the verification process, deletions of existing product data definitions and additions to support Appendix B of the reporting regulation.

Rationale for Proposed Updates Section 95102(a)

This section is necessary to ensure that those subject to the regulation are able to understand and interpret the regulation correctly, and to avoid ambiguity and improve compliance with the regulation. ARB staff has attempted to include all key terms used in the regulation, which are usually included without modification to support consistent interpretation of the state and federal regulation. Deletions, additions, and modifications from the current version of the reporting regulation are necessary to ensure clear interpretation of terms related to the other amendments to the regulation in this rulemaking.

Summary of Proposed Updates Section 95102(b)

This section was added to split the product data definitions from the emissions definitions.

Rationale for Proposed Updates Section 95102(b)

This change is necessary to ensure there is a central location within the reporting regulation that defines the many different types of product data.

Section 95103. Greenhouse Gas Reporting Requirements.

This section contains the reporting requirements for all facilities subject to this regulation, including abbreviated reporting, reporting and verification schedules, accuracy specifications, and other requirements.

Summary of Proposed Updates Section 95103(a)

The language added to this section to clarifies that only U.S. EPA reporting sectors listed in the California GHG reporting regulation are to be considered for this abbreviated reporting applicability requirement.

Rationale for Proposed Updates Section 95103(a)

The clarification is needed to state that the applicability for abbreviated reporters is based upon the reporting entity sectors listed in the California GHG reporting regulation as opposed to all sectors in the U.S. EPA reporting rule.

Summary of Proposed Updates Section 95103(a)(1)

Staff added requirements for abbreviated reporters to provide their natural gas supplier service identification number or other primary account identifier. This information, which is in addition to providing the name and customer account number of their natural gas supplier, ensures consistent reporting of natural gas supplier information for both abbreviated reporters and full reporters reporting information per section 95115(k).

Rationale for Proposed Updates Section 95103(a)(1)

This new language was added to facilitate identification of the abbreviated reporter's natural gas supplier for purposes of ensuring accurate natural gas supplier compliance obligation calculations. This revision attains consistency of reporting natural gas supplier information for both abbreviated reporters and full reporters.

Summary of Proposed Updates Section 95103(a)(2)

Staff added requirements for abbreviated reporters to provide additional information attributing percentages of aggregated fuel consumption to the unit type categories specified in section 95115(h): boiler, reciprocating internal combustion engine, turbine, process heater, and other. Require abbreviated reporters to separately report electricity generating units from other general stationary combustion units. Engineering estimation and best available method are acceptable.

Rationale for Proposed Updates Section 95103(a)(2)

This new language was added to track the actual source of emissions, consistent with the data submitted by full reporters. This information supports the GHG emission inventory.

Summary of Proposed Updates Section 95103(a)(6)

The proposed change requires abbreviated reporters operating a hydrogen fuel cell unit at their facility to report emissions from the hydrogen fuel cell unit by following the new emission calculation methods in section 95112(f).

Rationale for Proposed Updates Section 95103(a)(6)

This change allows ARB to monitor the growth in the new hydrogen fuel cell installation in California to ensure consistency in the way that emission sources are captured by the mandatory reporting program at all emission applicability thresholds.

Summary of Proposed Updates Section 95103(a)(8)

Removed reference to historical data.

Rationale for Proposed Updates Section 95103(a)(8)

This change is necessary to ensure the reporting requirements are clear and unambiguous.

Summary of Proposed Updates Section 95103(a)(9)

Proposed updates in this sub-section require abbreviated reporters to correct errors in their emissions data reports, if discovered after the reporting deadline. It also clarifies that this applies to any error, not just errors that are greater the five percent.

Rationale for Proposed Updates Section 95103(a)(9)

Previously, the rule language was not clear regarding what an abbreviated reporter should do when an error is discovered in the emissions data report. The new rule language provides a mechanism for abbreviated reporters to make a correction if an error in the emissions data report is discovered after the reporting deadline. This ensures the most accurate data reporting possible. The language regarding a threshold of error correction was removed to ensure that all errors are corrected to maintain an accurate assessment of the reported data.

Summary of Proposed Updates Section 95103(e)

This section was updated to clarify the year of data submittal and the year of the data to be reported.

Rationale for Proposed Updates Section 95103(e)

This change was needed, in conjunction with the revision to the definition of “emissions data report,” to clearly establish that an emissions data report is for the submission of required data for the calendar year prior to the year in which the report is due.

Summary of Proposed Updates Section 95103(f)

Verification requirements in this section have been updated to include language that reflects the updated definition to “emissions data report” and clarifications made to cessation of verification in section 95101(i).

Rationale for Proposed Updates Section 95103(f)

This change is necessary to ensure a consistent interpretation of the term “emissions data report” and cessation of verification.

Summary of Proposed Updates Section 95103(h)

Proposed changes describe the reporting method for reporting new requirements for 2013 data reported in 2014, and removes obsolete historical references.

Rationale for Proposed Updates Section 95103(h)

This change is necessary to ensure that certain data from 2013 will be reported in 2014. This change is important for purposes of supporting the allocation of allowances and benchmarking process in the Cap-and-Trade program. These modifications also indicate which requirements are applicable for 2014 data reported in 2015.

Summary of Proposed Updates Section 95103(i)

This section has been updated to allow fuel suppliers to use *de minimis* provisions in their reporting.

Rationale for Proposed Updates Section 95103(i)

This change is necessary to ensure supplier reporting is consistent with other facilities.

Summary of Proposed Updates Section 95103(j)(3)

New biomethane procurement reporting requirements were added to the section in order to ensure that reporters have the requisite data available for meeting the biomethane verification requirements.

Rationale for Proposed Updates Section 95103(j)(3)

This change is necessary to ensure that reporters have the requisite data available for meeting the biomethane verification requirements in 95131(i) and the requirements of section 95852.1.1 of the Cap-and-Trade regulation that exempts this fuel from a compliance obligation.

Summary of Proposed Updates Section 95103(k)

Proposed language was added to require that operators and suppliers subject to the measurement accuracy requirements of 40 CFR §98.3(i) must meet those requirements for non-covered emissions and non-covered product data.

Rationale for Proposed Updates Section 95103(k)

The language was added to clarify that non-covered product data and non-covered emission data does not need to meet the requirements of section 95103(k).

Summary of Proposed Updates Section 95103(k)(7)(C)

New language was added to exempt non-financial transaction meters used by Public Utility Gas Corporations (PUGCs) that conform to the standard California Public Utilities Commission (CPUC) General Order 58A.

Rationale for Proposed Updates Section 95103(k)(7)(C)

This change was necessary to avoid situations where PUGCs are subject to more than one metering standard for a single meter. This provision ensures the continued

accuracy of the non-financial transaction meters by requiring the PUGC to demonstrate that the non-financial transaction meters are operated and maintained in conformance to a standard that meets the accuracy requirements specified in CPUC General Order 58A, which specifies measurement accuracy within five percent.

Summary of Proposed Updates Section 95103(k)(9)(A)

The reference to historical data was removed.

Rationale for Proposed Updates Section 95103(k)(9)(A)

This change is necessary to ensure the reporting requirements are clear and unambiguous.

Summary of Proposed Updates Section 95103(k)(11)

New language was added specifying that process throughput data required in section 95113(l)(3)-(4) can be measured using the inventory measurement methods described in section 95103(k)(11).

Rationale for Proposed Updates Section 95103(k)(11)

This change was made to ensure that process throughput data measurements will be performed consistently and be held to the standards of section 95103(k).

Summary of Proposed Updates Section 95103(l)

Language was added to allow for the voluntary exclusion of covered product data from a material misstatement assessment, except for the cement sector requirements in section 95110(d). If covered product data is excluded then the reporting entity must describe the exclusion and estimate the magnitude of the exclusion. A section reference was modified to include section 95124, lead production. If covered product data is excluded, then that data is not allowed for use in the allocation of allowances determination.

Rationale for Proposed Updates Section 95103(l)

This change was necessary to allow for flexibility during the verification of covered product data. The update of the section reference is necessary to allow reporters the option to not include product data, if the accuracy of the data cannot be demonstrated.

Summary of Proposed Updates Section 95103(m)

This change ensures product data is also subject to the change of methodology provisions outlined in this section.

Rationale for Proposed Updates Section 95103(m)

This change was necessary to ensure consistent application of the reporting regulation.

Summary of Proposed Updates Section 95103(m)(3)

Updated language to clarify the intent of the section.

Rationale for Proposed Updates Section 95103(m)(3)

This change was necessary to ensure consistent interpretation of this regulatory requirement.

Summary of Proposed Updates Section 95103(m)(5)

Subparagraph (5) was added to provide requirements for choosing measurement and calculation methods in the event that regulatory revisions impose new or revised reporting or calculation requirements.

Rationale for Proposed Updates Section 95103(m)(5)

This change was necessary to ensure consistent interpretation of this regulatory requirement when new or revised rules are implemented.

Summary of Proposed Updates Section 95103(n)

This new subsection outlines notification requirements and reporting responsibilities for a reporting entity that undergoes a change of ownership or operational control.

Rationale for Proposed Updates Section 95103(n)

This change is necessary to ensure the consistent, continuous reporting by a facility or supplier during an ownership change or change in operational control. Staff added language to outline the process, including who to notify at ARB, when to notify them, and who is responsible for reporting and verification.

Summary of Proposed Updates Section 95103(o)

This section was renumbered to accommodate the addition of section 95103(n).

Rationale for Proposed Updates Section 95103(o)

This change was made to ensure consistent section numbering.

Section 95104. Emissions Data Report Content and Mechanism.

This section of the reporting regulation outlines the general contents of the emissions data report, a responsible party within each reporting entity, and the method by which emissions inventory reports are conveyed.

Summary of Proposed Updates Section 95104(d)(4)

This section specifies that if a facility includes more than one cogeneration system, boiler, or steam generator, and the generated thermal energy from certain unit/system is

dedicated to certain particular end-users, the reporter must report the thermal energy disposition by unit/system so it is possible to trace the thermal energy disposition to the units dedicated to the generation. In cases where all the generated thermal energy from all the units/system within the facility boundary is provided to the same particular end-users, there is no need for separate reporting by unit/system.

Rationale for Proposed Updates Section 95104(d)(4)

This change is necessary to increase the usability of the reported data. When there are multiple particular end-users of the generated thermal energy, reporting thermal energy disposition by unit/system provides key information for calculating the cogeneration emissions attributed to electricity generation vs. thermal energy generation. This change enables the assessment of carbon cost pass-through from the cogeneration facility operator to their thermal hosts or separately from other units that are not a part of the cogeneration system.

Summary of Proposed Updates Section 95104(e)

This proposed update is to collect facility information needed to determine if there may have been the potential for emission increases in criteria pollutants or toxic air contaminants, and the reason for those potential changes.

Rationale for Proposed Updates Section 95104(e)

This qualitative data is needed to support ARB's Cap-and-Trade adaptive management monitoring, review, and analysis. The information will be used to assess the potential localized air quality impacts that may result from the Cap-and-Trade program. Collecting these data via the existing GHG reporting regulation is the most efficient mechanism for doing so.

Summary of Proposed Updates Section 95104(f)

This section was renumbered to accommodate the addition of section 95104(e).

Rationale for Proposed Updates Section 95104(f)

This change was made to ensure consistent section numbering.

Section 95105. Recordkeeping Requirements.

This section requires facilities with greater than 25,000 $MTCO_2e$ of emissions, inclusive of biomass-derived CO_2 emissions, to prepare and maintain a GHG Monitoring Plan. Maintaining a GHG Monitoring Plan helps ensure compliance and best practices, facilitate more efficient verification, and provide a consistent treatment among all the facilities at the greater than 25,000 $MTCO_2e$ emission level.

Summary of Proposed Updates Section 95105(c)

Proposed updates in this section clarify that the facility operator is responsible for completing the GHG monitoring plan and that biomass-derived carbon dioxide emissions are included in the 25,000 metric tons of CO_2e threshold determination for completing a GHG monitoring plan. This updates also requires fuel suppliers with greater than 25,000 metric tons of CO_2e to complete and maintain a GHG monitoring plan.

Rationale for Proposed Updates Section 95105(c)

This change was necessary to ensure biomass power plants and suppliers of fuel with greater than 25,000 $MTCO_2e$ of emissions maintain a GHG monitoring plan. Any facility with greater than 25,000 $MTCO_2e$ of emissions requires third-party verification, but the existing rule language was not clear whether a facility that combusts biomass fuels must also maintain a GHG Monitoring Plan similar to other facilities. Maintaining a GHG Monitoring Plan ensures compliance and best practices, facilitates more efficient verification, and provides a consistent treatment among all the facilities at the greater than 25,000 $MTCO_2e$ emission level.

Summary of Proposed Updates Section 95105(c)(7)

Added a requirement to report data associated with orifice plate inspection if AGA report No 3 (2003) Part 2 is used.

Rationale for Proposed Updates Section 95105(c)(7)

This change is necessary for consistency. Section 95103(k)(6)(A)1 allows two methods to be used for inspecting orifice plates. Due to an oversight, data associated with the inspections was only required to be reported for one of the methods. The proposed update requires data to also be reported for the second method, as described above.

Subarticle 2.

Requirements for the Mandatory Reporting of Greenhouse Gas Emissions from Specific Types of Facilities, Suppliers, and Entities

Section 95110. Cement Production.

Summary of Proposed Updates Section 95110(c)

This section was updated to clarify the year of data submittal and the year of the data to be reported.

Rationale for Proposed Updates Section 95110(c)

This change was needed, in conjunction with the revision to the definition of "emissions data report," to clearly establish that an emissions data report is for the submission of required data for the calendar year prior to the year in which the report is due.

Section 95111. Electric Power Entities.

Section 95111 describes the reporting requirements for electric power entities. Electric power entities include importers, marketers, retail providers and asset controlling suppliers who are involved in electricity transactions.

Summary of Proposed Updates Section 95111(a)(4)

This section sets forth requirements for reporting imported electricity from specified sources. The proposed update would effectively require sellers of specified power to warrant or guarantee that the transacted product is, in fact, specified source electricity from the generation source along each segment in the market path. As specified in section 95103(h), the requirement that sellers warrant that the transacted product is specified source electricity would apply to 2014 data reported in 2015.

Rationale for Proposed Updates Section 95111(a)(4)

This change is necessary to ensure that specified power claims are supported by contract documentation. Clarifying language from the 2012 rulemaking process improved stakeholder understanding for claiming a specified source of electricity. However, during implementation of the changes, it was discovered that possible contracting outcomes could lead to power purchased as unspecified becoming claimed as specified. This change adds language that requires reporting entities to demonstrate that power they claim as a specified source of electricity was contracted for as a specified source throughout the market path of the power.

Summary of Proposed Updates Section 95111(a)(4)(A)

Specified source claims of imported electricity must meet certain requirements, including whether the reported amount of imported electricity was measured at the busbar. For imports measured at the busbar, use of the transmission loss factor is not required, but for power not measured at the busbar, use of the transmission loss factor is required when reporting imported power. The proposed update would clarify these provisions and require supporting documentation for busbar claims.

Rationale for Proposed Updates Section 95111(a)(4)(A)

This revision is necessary to establish a verifiable basis for busbar claims, given that busbar claims allow an electric power entity to claim a slightly smaller amount of power because the transmission loss factor is not required. Subsection headings were added to 95111(a)(4)(A)(1) and (2) for clarity and ease of reference.

Summary of Proposed Updates Section 95111(a)(5)
Text was deleted from this section and moved to section 95111(a)(5)(E)

Rationale for Proposed Updates Section 95111(a)(5)
This change was necessary to improve the consistency of the reporting requirements in this section.

Summary of Proposed Updates Section 95111(a)(5)(B)
This section sets forth requirements for reporting imported electricity supplied by asset-controlling suppliers. The proposed update would clarify the requirement for an electric power entity to report asset-controlling supplier power, that was not acquired as specified source power, as unspecified.

Rationale for Proposed Updates Section 95111(a)(5)(B)

This change is necessary to establish that asset-controlling supplier power may be reported as either specified or unspecified power depending upon the transaction, for the reason that asset-controlling supplier power can be sold in the market as either specified or unspecified power. In order to claim asset-controlling supplier power as specified, the requirements to claim a specified source of electricity must be met because a "s*pecified source also means electricity procured from an asset-controlling supplier recognized by the ARB*," per Section 95102(a). Asset-controlling supplier power would be claimed as unspecified power in the event that "*the source of electricity … is not a specified source at the time of entry into the transaction to procure the electricity*," per section 95102(a). It is ARB's expectation that the ACS seller controls whether the specified ACS attributes are conveyed with the transaction. For example, a renewable energy seller determines whether the renewable energy credits (RECs) convey in a transaction for specified power. Similarly, the ACS would determine whether the specified ACS attributes convey in a transaction for specified ACS power. Thus, in order to claim specified ACS power, EPEs must provide some evidence that the ACS attributes were in fact conveyed at each point along the market path shown on the eTag.

Summary of Proposed Updates Section 95111(a)(5)(D)
This section sets forth requirements for reporting imported electricity supplied by asset-controlling suppliers. The proposed update would require an electric power entity to utilize the transmission loss factor when reporting asset-controlling supplier power.

Rationale for Proposed Updates Section 95111(a)(5)(D)

The purpose of the proposed update is to establish the requirement that all power claimed as asset-controlling supplier power must utilize the transmission loss factor of 1.02. Transmission losses in the West are usually settled financially between counterparties, and MWh values shown on e-tags are constant values throughout the various path segments on the tag, even though transmission losses have occurred during actual delivery. In addition, neither of the two asset-controlling suppliers currently registered with ARB have balancing area authority or transmission provider control points in California. While the Bonneville Power Authority (BPA) service territory

does extend into California, it does so only at the distribution level and power is only provided at that level to one entity, Surprise Valley Electric, an electric cooperative. No other electric power entities take delivery of BPA power from that portion of its service territory that extends into California. Finally, the requirement that all power claimed as asset-controlling supplier power must utilize the transmission loss factor reflects actual transmission loss associated with delivery from the asset-controlling supplier system to California.

Summary of Proposed Updates Section 95111(a)(5)(E)

The purpose of this new section is to specify the tagging requirements necessary to claim asset controlling supplier power. The proposed language would require electric power entities to ensure that the asset-controlling supplier is identified on the physical path of the NERC e-Tag as the PSE at the first point of receipt, or in the case of asset controlling suppliers that are exclusive marketers, as the PSE immediately following the associated generation owner, with the exception of path outs, where path outs are excess power, originally procured as part of a U.S. federal mandate to serve the operational or reliability needs of a U.S. federal system but which are no longer required due to changes in demand or system conditions.

Rationale for Proposed Updates Section 95111(a)(5)(E)

The addition of this new language is necessary because not all power sold by an asset controlling supplier is, in fact, asset controlling supplier power at the approved system emission factor rate. While some asset controlling suppliers sell power from the same source as either specified or unspecified, other asset controlling suppliers sell a multitude of power products from a multitude of sources. Clear tagging requirements are one way in which more assurance can be provided to buyers and sellers about the product being transacted.

Summary of Proposed Updates Section 95111(a)(12)

The purpose of this new section is to describe the reporting requirements for system power procured from a system power supplier. The proposed language would require electric power entities to report system power volumes in a manner similar to that for asset controlling supplier power.

Rationale for Proposed Updates Section 95111(a)(12)

This change is necessary to ensure proper reporting of power imported into California that is not tagged from a specified source or is unspecified. Reporting entities would be required to report (1) the ARB identification information for the system power supplier, (2) system power as specified or unspecified as appropriate to the transaction, (3) deliveries measured at the first point of delivery in the state of California, and (4) transmission losses using the factor of 1.02 in all instances.

Summary of Proposed Updates Section 95111(b)(3)

This section sets forth the specific terms and equations for the calculation of a system emission factor for an asset-controlling supplier. The proposed update would (1) make two non-substantive grammatical changes, (2) add headers to most of the variable descriptions in the system emission factor calculation, (3) delete language consistent with the proposed update to 95111(a)(5)(B) regarding use of the transmission loss factor when reporting asset-controlling supplier power, (4) add language to the purchased electricity variable to include treaty power.

Rationale for Proposed Updates Section 95111(b)(3)

This change is necessary to clarify the asset-controlling supplier calculation method. The proposed update would delete language consistent with the proposed update to 95111(a)(5)(B) regarding the requirement for an electric power entity to utilize the transmission loss factor when reporting asset-controlling supplier power. See rationale for the 95111(a)(5)(B) proposed update for further explanation. The term "specified" was deleted from the heading as it was extraneous and now simply reads, *Calculating GHG Emissions of Imported Electricity Supplied by Specified Asset-Controlling Suppliers*. In addition, the first line of the EF_{ACS} description was modified to state that the system emission factor in this section is specific to an asset-controlling supplier.

Language was added to the purchased electricity variable PE_{sp} to include treaty power (new term in section 95102(a)). This change accounts for the fact that an asset-controlling supplier may receive power pursuant to an international treaty, like the Columbia River Treaty. When power is received by the asset-controlling supplier, the treaty power would be accounted for in the system emission factor calculation through the PE_{sp} variable.

Summary of Proposed Updates Section 95111(b)(4)

The heading to this section was italicized.

Rationale for Proposed Updates Section 95111(b)(4)

The change is necessary so this section heading is consistent with the other section headings in section 95111(b).

Summary of Proposed Updates Section 95111(b)(5)

The purpose of this new section is to add requirements to accurately reflect the carbon content of system power that is imported to California. The proposed system power language would require purchasers of system power, where system power is defined as power with a carbon content above the default emission factor, to report imported power at a system power emission factor rate calculated by ARB, instead of at the default emission factor for unspecified power.

Rationale for Proposed Updates Section 95111(b)(5)

This change is necessary to ensure the system power emission factor is calculated correctly. As currently constructed, the MRR assumes that all power tagged on the bulk transmission system is tagged at the generation facility or unit level, however, this is not always the case. Some power systems outside California do not tag power at the

generation facility or unit level but instead tag power as system power at the system level to reflect the combined output of its generation portfolio. Based on publicly available information for each system, ARB would calculate a system emission factor that reflects the weighted average contribution of all generation resources in the system portfolio. This approach will more accurately reflect the carbon content of the system power, than the use of the default emission factor for unspecified electricity imports of 0.428 MT of CO_2e/MWh, as set forth in section 95111(b)(1).

Summary of Proposed Updates Section 95111(b)(6)
This section was renumbered to account for the addition of system power in section 95111 (b)(5).

Rationale for Proposed Updates Section 95111(b)(6)
This change is necessary to ensure accurate regulatory citations.

Summary of Proposed Updates Section 95111(c)(1)
This section has been amended to correct a grammatical error – it changes “providers” to “provider.”

Rationale for Proposed Updates Section 95111(c)(1)
This change is necessary to correct a grammatical error.

Summary of Proposed Updates Section 95111(f)(5)(F)

The purpose of the broader section is to set forth data requirements for the system emission factor calculation for asset-controlling suppliers. The proposed update would add a new subsection with language on the total amount of electricity received under the treaty.

Rationale for Proposed Updates Section 95111(f)(5)(F)

The proposed new subsection is needed to separately identify and incorporate treaty power into the system emission factor calculation.

Summary of Proposed Updates Section 95111(f)(5)(G)

The purpose of this change is to renumber this section due to the above section changes.

Rationale for Proposed Updates Section 95111(f)(5)(G)

This change is necessary to ensure consistency in the reporting regulation.

Summary of Proposed Updates Section 95111(g)
The purpose of this change is to set forth certain requirements for specified source and RPS Adjustment claims. The proposed update would add language for the registration of anticipated system power supplier resources and update a section reference.

Rationale for Proposed Updates Section 95111(g)

This change is necessary to establish July 1 prior to each data year for the registration of system power supplier resources. For example, an electric power entity registers anticipated system power sources by July 1, 2014. ARB will then use the information submitted pursuant to section 95111(g)(6) to calculate an emission factor for use with 2015 data reported in 2016.

Summary of Proposed Updates Section 95111(g)(1)(N)

The purpose of this section is to require retention of generation meter data by the electric power entity for verification purposes to avoid the over-accounting low-emission generation.

Rationale for Proposed Updates Section 95111(g)(1)(N)

This change is necessary to clarify the reporting requirements for meter generation retention. It is ARB's understanding that it is common practice in the industry to perform monthly true-ups between generated and scheduled power.

Summary of Proposed Updates Section 95111(g)(6)

The purpose of this section is to set forth registration requirements for system power supplier sources. The proposed update would add language for the registration of anticipated system power supplier resources, pursuant to the broader section 95111(g). Registrants would be required to provide information on, the proposed system power supplier, a description of the system as well as the publicly available information which ARB might utilize in a system emission factor calculation, and provide information on current and historical NAESB/NERC e-tagging practices for the system power supplier.

Rationale for Proposed Updates Section 95111(g)(6)

This change is necessary to establish the reporting requirements needed by the July 1 registration deadline indicated in section 95111(g).

Section 95112. Electricity Generation and Cogeneration Units.

This section details reporting requirements for electricity generation and cogeneration units.

Summary of Proposed Updates Section 95112(a)

Rule language added to indicate that facility operators who are applying for the legacy contract generator transition assistance under the Cap-and-Trade regulation must always report the information in section 95112(a)(4)-(6), even if they do not provide or sell any generated energy outside of the facility boundary.

Rationale for Proposed Updates Section 95112(a)

This change is necessary to ensure that ARB will have sufficient energy disposition data for implementing the legacy contract generator transition assistance provision in the Cap-and-Trade regulation.

Summary of Proposed Updates Section 95112(a)(4)

A heading is added to each of the electricity disposition items in paragraphs 95112(a)(4)(A), (B), and (C). Also, new rule language is added to the end of section 95112(a)(4) to require certain breakout of electricity dispositions under the following situation: If a facility includes more than one electricity generating unit or cogeneration system, and the generated electricity from certain unit/system is dedicated to certain particular end-users, retail providers, or electricity marketer, the reporter must report the electricity disposition by unit/system so it is possible to trace the electricity disposition to the units dedicated to the generation. However, if all the generated electricity from all the units/system within the facility boundary is provided to the same particular end-users, retail providers, or electricity marketer, there is no need breakout the disposition by unit/system.

Rationale for Proposed Updates Section 95112(a)(4)

Many reporters have either entered the energy disposition in the incorrect data fields in the reporting tool, or selected the incorrect energy flows from their system energy diagram to match the items specified in paragraphs 95112(a)(4)(A), (B), and (C). The headings are added to these paragraphs for clarification to assist reporters identify the correct energy flows to report under these energy disposition items.

When a facility provides generated electricity to multiple particular end-users, retail provider, or electricity marketer, the electricity disposition information by unit/system provides key information for assessing carbon cost pass-through from the electricity generator to the purchasers of the generated electricity.

Summary of Proposed Updates Section 95112(a)(4)(C)

A new requirement is added to paragraph 95112(a)(4)(C): if some of the generated electricity is used to produce cooling energy for a customer outside of its facility boundary or for on-site industrial processes or operations that are neither in support of nor a part of the power generation system, the facility operator must report the amount of generated electricity used for producing the cooling energy. This requirement does not apply if the sole purpose of the generated cooling energy is for maintaining temperature in the electricity generation or cogeneration system.

Rationale for Proposed Updates Section 95112(a)(4)(C)

This change is necessary to clarify how the reporter of such a facility type should account for the generated electricity used for producing cooling energy for applications not related to electricity generation. This new requirement helps the affected reporting entities complete their system energy balance.

Summary of Proposed Updates Section 95112(a)(5)

This proposed amendment introduces the term “generated thermal energy,” which is mentioned throughout section 95112(a)(5). A heading is added to each of the thermal energy disposition items in paragraphs 95112(a)(5)(A), (B), and (C). Also, new rule language is added to the end of sub-section 95112(a)(5) to require certain breakout of thermal energy dispositions under the following situation: if a facility includes more than one cogeneration or bigeneration unit/system, and the generated thermal energy from certain unit/system is dedicated to certain particular end-users, the reporter must report the thermal energy disposition by unit/system so it is possible to trace the thermal energy disposition to the units dedicated to the generation. However, if all the generated thermal energy from all the units/system within the facility boundary is provided to the same particular end-users, there is no need breakout the disposition by unit/system.

Rationale for Proposed Updates Section 95112(a)(5)

Many reporters have either entered the energy disposition in the incorrect data fields in the reporting tool, or selected the incorrect energy flows from their system energy diagram to match the items specified in paragraphs 95112(a)(5)(A), (B), and (C). The headings are added to these paragraphs for clarification to assist reporters identify the correct energy flows to report under these energy disposition items.

When a facility provides generated thermal energy to multiple particular end-users, the thermal energy disposition information by unit/system provides key information for assessing carbon cost pass-through from the generator to the purchasers of the thermal energy.

Summary of Proposed Updates Section 95112(a)(5)(C)

A new requirement is added to paragraph 95112(a)(5)(C): if some of the generated thermal energy is used to produce cooling energy or distilled water for a customer outside of its facility boundary or for on-site industrial processes or operations that are neither in support of nor a part of the power generation system, the facility operator must report the amount of generated thermal energy used for producing the cooling energy or distilled water. This requirement does not apply if the sole purpose of the generated cooling energy is for maintaining temperature in the electricity generation or cogeneration system.

Rationale for Proposed Updates Section 95112(a)(5)(C)

This change is necessary to clarify how the reporter of such facility should account for the generated thermal energy used for producing distilled water or for producing cooling energy for applications not related to electricity generation or cogeneration. This new requirement helps the affected reporting entities complete their system energy balance.

Summary of Proposed Updates Section 95112(a)(6)

Removed reference to historical data year.

Rationale for Proposed Updates Section 95122(a)(6)

References to historical data years have been removed.

Summary of Proposed Updates Section 95112(b)(2)

Staff has added clarifications to describe that the difference between net generation and gross generation is the parasitic load of electricity generation or cogeneration, and the net generation quantity represents the amount of generated electricity that can be provided to the disposition categories in section 95112(a)(4).

Rationale for Proposed Updates Section 95112(b)(2)

This change was made in response to reporter and verifier questions received during program implementation.

Summary of Proposed Updates Section 95112(b)(3)

Staff has added clarifications that total thermal output is the thermal energy generated by the cogeneration or bigeneration system that can be potentially utilized in other industrial operations that are not related to electricity generation. Also clarify that the total thermal output quantity represents the amount of generated thermal energy that can be provided to the disposition categories in section 95112(a)(5).

Rationale for Proposed Updates Section 95112(b)(3)

This change was made in response to reporter and verifier questions received during program implementation.

Summary of Proposed Updates Section 95112(c)

Staff has added sorbent emissions to the heading of this section.

Rationale for Proposed Updates Section 95112(c)

This change is necessary to include sorbent emissions as part of this section in conjunction with the addition of section 95112(c)(3).

Summary of Proposed Updates Section 95112(c)(3)

Staff has added a requirement for operators of a Subpart D unit to report the portion of the reported CO_2 emissions attributed to sorbent.

Rationale for Proposed Updates Section 95112(c)(3)

This change was made to support the calculation of the state-wide greenhouse gas emission inventory.

Summary of Proposed Updates Section 95112(f)

Staff has deleted the phrase “produce hydrogen on-site” and the phrase that limits reporting to “fuels or feedstocks used in hydrogen production” from the introduction paragraph.

Rationale for Proposed Updates Section 95112(f)

This change was necessary to support revised language in conjunction with the addition of paragraph 95112(f)(5).

Summary of Proposed Updates Section 95112(f)(5)

Staff has added a reporting requirement and emission calculation methods for hydrogen fuel cell units.

Rationale for Proposed Updates Section 95112(f)(5)

This change was made to inform the state-wide greenhouse gas inventory of electricity generation emissions and to help ARB monitor the growth in hydrogen fuel cell installations.

Summary of Proposed Updates Section 95112(h)

Removed reference to historical data.

Rationale for Proposed Updates Section 95112(h)

For consistency, removed reference to historical data years.

Section 95113. Petroleum Refineries.

This section defines the reporting requirements for hydrogen production facilities.

Summary of Proposed Updates Section 95113

Updates in this section require operators of petroleum refineries who report both facility emissions and supplied transportation fuels emissions under the same ARB ID, to report each emissions component (refinery and supplier) under a separate ARB ID.

Rationale for Proposed Updates Section 95113

This change was necessary to ensure that the refinery emissions subject to a compliance obligation starting in the first compliance period are reported and verified separately from the fuel supplier emissions that are subject to a compliance obligation starting with the second compliance period.

Summary of Proposed Updates Section 95113(k)

Text relating to historical data submissions has been deleted.

Rationale for Proposed Updates Section 95113(k)

Requirements relating to historical data are no longer applicable.

Summary of Proposed Updates Section 95113(l)(1)

Staff added text discussing the verification requirements of primary refinery product data for present and future data reports.

Rationale for Proposed Updates Section 95113(l)(1)

This new text clarifies the verification requirements for primary refinery products for present and future emission data report submittals.

Summary of Proposed Updates Section 95113(l)(1)(A)

Historical voluntary data reporting requirements for the reporting of calcined coke product data have been deleted.

Rationale for Proposed Updates Section 95113(l)(1)(A)

These historical product data reporting requirements are no longer required. However the mandatory reporting of this product data type is still required to support the Cap-and-Trade program and is listed in section 95113(l)(1).

Summary of Proposed Updates Section 95113(l)(2)

Added text ensures the operator demonstrates conformance to the verifier that the Solomon EII value is correct.

Rationale for Proposed Updates Section 95113(l)(2)

This addition is required to ensure that the facility Solomon EII value is correctly reported and verified.

Summary of Proposed Updates Section 95113(l)(3)(A)

Historical references to prior reporting years have been deleted. Text defining CWT data as covered product data has been added.

Rationale for Proposed Updates Section 95113(l)(3)(A)

References to historical data reporting are no longer needed. Verification requirements for CWT are delineated and clarified.

Summary of Proposed Updates Section 95113(l)(3)(C)(1-4)

This section was renumbered.

Rationale for Proposed Updates Section 95113(l)(3)(C)(1-4)

For consistency with the rest of the reporting regulation, this section was renumbered.

Summary of Proposed Updates Section 95113(l)(3)(D)

A requirement was added to annually determine the density of each CWT throughput. This requirement allows the use of default densities for each material, but if a default value is not available, a measurement must take place.

Rationale for Proposed Updates Section 95113(l)(3)(D)

This change is necessary to convert the barrels of material to mass units. Density measurements are required to covert each throughput value from a barrel basis to mass units.

Summary of Proposed Updates Section 95113(l)(4)

This section adds reporting requirements for complexity weighted barrel, a covered product data. The section outlines the reporting requirements and the equation used to calculate the overall complexity weighted barrel for each refinery.

Rationale for Proposed Updates Section 95113(l)(4)

This change is necessary to ensure refiners can report using the complexity weighted barrel throughputs beginning with the second compliance period of the Cap-and-Trade program.

Summary of Proposed Updates Section 95113(l) – Table 1

The term “CWT” was deleted from the title of the Table and the column headings.

Rationale for Proposed Updates Section 95113(l) – Table 1

This change is necessary for the Table to apply to both the carbon dioxide weighted tonne and complexity weighted barrel.

Section 95114. Hydrogen Production.

This section defines the reporting requirements for hydrogen production facilities.

Summary of Proposed Updates Section 95114(a)

Text has been added to require emissions reporting for hydrogen production facilities which may not sell hydrogen but consume all produced hydrogen on-site (e.g., an R&D facility).

Rationale for Proposed Updates Section 95114(a)

This change is necessary to ensure that all hydrogen producers with emissions exceeding the reporting threshold will report their emissions to ARB.

Summary of Proposed Updates Section 95114(e)

This section has been modified to require the reporting of feedstock carbon and hydrogen content, regardless of measurement method (CEMS or non-CEMS).

Rationale for Proposed Updates Section 95114(e)

This change is necessary to support the development of an accurate statewide greenhouse gas inventory. The inventory tracks emissions such as process emissions and stationary combustion fuel emissions separately. Hydrogen content data, along with carbon content data, is necessary to delineate emissions from the on-purpose production of hydrogen and will facilitate separation of combustion and process emissions necessary for the GHG inventory.

Summary of Proposed Updates Section 95114(e)(1)

This section has been added to set-forth the sampling frequencies requirements for the determination of feedstock carbon and hydrogen content at all CEMS equipped facilities.

Rationale for Proposed Updates Section 95114(e)(1)

This change is necessary to indicate the sampling frequency for the carbon and hydrogen content of all feedstock. The change supports the development of an accurate GHG inventory of combustion and process emissions related to the production of hydrogen.

Summary of Proposed Updates Section 95114(e)(1)(A) – (C)

These three sections have been modified to provide procedures for determination of the carbon and hydrogen content for solid, liquid, and gaseous feedstocks for all reporters.

Rationale for Proposed Updates Section 95114(e)(1)(A) – (C)

This change is necessary to provide reporters with the details for determination of the carbon and hydrogen contents for all solid, liquid, and gaseous feedstocks.

Summary of Proposed Updates Section 95114(e)(2)

This section has been modified to set-forth sampling frequencies for the determination of fuel and feedstock carbon content and molecular weight at facilities not equipped with a CEMS for gaseous, liquid and solid feedstock.

Rationale for Proposed Updates Section 95114(e)(2)

This change is necessary to clarify the sampling frequencies at facilities not equipped with CEMS. The requirements for this section are not new, but renumbered to accommodate the new carbon and hydrogen content reporting requirements described in section 95114(e)(1).

Summary of Proposed Updates Section 95114(g)

This change requires that reporters report the mass of CO_2 resulting from hydrogen production reported elsewhere in the MRR (e.g. as flaring or combustion emissions or transferred CO_2) and subsequently subtract these emissions from their facility total to avoid double-counting.

Rationale for Proposed Updates Section 95114(g)

This change is necessary to ensure correct emissions reporting, data consistency and avoid double counting of emissions.

Summary of Proposed Updates Section 95114(i)

This change requires subtraction of the mass of all transferred carbon dioxide (reported under section 95123 as a supplier of carbon dioxide) from the facility emissions.

Rationale for Proposed Updates Section 95114(i)

This change is necessary to ensure correct emissions reporting, data consistency and avoid double counting of emissions.

Summary of Proposed Updates Section 95114(j)

These changes require reporting of the mass of both on-purpose and by-product hydrogen produced at the facility as well as the amount of hydrogen produced and the amount of liquid hydrogen sold.

Rationale for Proposed Updates section 95114(j)

This change is necessary to support the allocation of allowances under the Cap-and-Trade program and for the statewide GHG inventory to assign the correct emissions to the on-purpose production of hydrogen.

Summary of Proposed Updates Section 95114(k)

Staff proposed language requiring the calculation of CH_4 and N_2O emissions resulting from fuel combustion.

Rationale for Proposed Updates Section 95114(k)

This change is necessary to ensure more accurate and complete emission reporting. Previously, emissions of CH_4 and N_2O from stationary fuel combustion were not reported.

Summary of Proposed Updates Section 95114(l)

This subsection has been added to the hydrogen production emissions reporting requirements. This new language requires that reporters determine the CO_2, CH_4, and N_2O emission from all flaring operations at their facility.

Rationale for Proposed Updates Section 95114(l)

This new language restores a previous reporting requirement that was part of an earlier version of the reporting regulation. By harmonizing with U.S.EPA these emissions were inadvertently removed from the reporting regulation. The reporting of flaring emissions that are associated with hydrogen production will provide a more accurate accounting of emissions for both the GHG statewide inventory and the Cap-and-Trade program.

Section 95115. Stationary Combustion Sources.

Summary of Proposed Updates Section 95115(c)(1)

Updates in this section allow operators to use Tier 1 or Tier 2 methods for biomass-derived fuels that are mixed prior to combustion with fossil fuels.

Rationale for Proposed Updates Section 95115(c)(1)

This change is necessary to increase the flexibility for operators to choose the Tier 1 and Tier 2 methods for biomass and fossil fuel streams mixed prior to combustion, acknowledging that the accuracy of the emissions estimate should not be affected as long as fuel consumption measurements meet the relevant accuracy requirements specified in 95103(k) and 40 CFR §98.3(i).

Summary of Proposed Updates Section 95115(c)(4)

Updated language to remove a typographical error.

Rationale for Proposed Updates Section 95115(c)(4)

This change is necessary to correct a typographical error.

Summary of Proposed Updates Section 95115(e)

Proposed updates specify that the procedure outlined in this section is required for calculating emissions from biomass fuel sources such as municipal solid waste (MSW), that are inherently intermixed with fossil fuels.

Rationale for Proposed Updates Section 95115(e)

This revision was made to provide further clarity on applicability of the procedure described in the section. The change also clarifies that there is no intended ‘mixing’ step in the process that must be performed by the operator.

Summary of Proposed Updates Section 95115(h)

Staff has amended this provision to require the reporting by unit type from heat input (MMBtu) to percentage of the aggregated fuel consumption.

Rationale for Proposed Updates Section 95115(h)

The update is made for consistency with the current reporting tool implementation. With the existing requirement to report the total fuel input in MMBtu for each unit configuration, the data requirement for reporting heat input is the same as reporting the percentage of the aggregated fuel.

Summary of Proposed Updates Section 95115(k)

Language was updated to replace the term natural gas "provider" with natural gas "supplier." Language was also added that clarifies that facility operators must report their natural gas supplier's customer account or service identification number(s) for the facility. Lastly, language was added concerning natural gas purchases from entities other than the natural gas supplier. The supplier is the entity that owns/operates the pipelines that physically deliver the gas to the facility, and may or may not be the entity that is selling the gas to the facility.

Rationale for Proposed Updates Section 95115(k)

This change is necessary to clarify that operators who report combustion emissions are required to identify and report the name of the facility's natural gas 'supplier' and the facility's customer account or service identification number for that supplier.

Summary of Proposed Updates Section 95115(l)

Proposed language was added to require operators who report combustion emissions to indicate whether any of the gas reported pursuant to section 95115(k) was supplied to downstream users outside of the operator's facility boundary. Any such instances must be reported, and the operator must report the name of the downstream end user and the MMBtu of the gas delivered.

Rationale for Proposed Updates Section 95115(l)

This subsection was added to ensure that ARB can accurately quantify each natural gas supplier's compliance obligation.

Summary of Proposed Updates Section 95115(m)

Removed reference to historical data and renumbered.

Rationale for Proposed Updates Section 95115(m)

This change was made to ensure the regulatory text was consistent with the updated definition of emissions data report and correct numbering.

Summary of Proposed Updates Section 95115(n)(5-17)

Proposed new language in this section includes the reporting of product data for additional industrial sectors. This includes mainly additions to the food processing sector, such as dairies, tomato processors, etc.

Rationale for Proposed Updates Section 95115(n)(5-17)

Reporting of product data for additional industry sectors is necessary to support the ARB Cap-and-Trade program. Specifically, the reported product data are used to assign free allocations for the purpose of leakage prevention and provide a benefit to the affected industries.

Section 95116. Glass Production.

Summary of Proposed Updates Section 95116(c)

References to historical data years have been removed.

Rationale for Proposed Updates Section 95116(c)

This change was made to ensure the regulatory text was consistent with the updated definition of emissions data report.

Section 95117. Lime Manufacturing.

Summary of Proposed Updates Section 95117(c)

Removed reference to historical data.

Rationale for Proposed Updates Section 95117(c)

This change was made to ensure the regulatory text was consistent with the updated definition of emissions data report.

Summary of Proposed Updates Section 95117(c)(2)(A)

Proposed additions in this section specify that missing data must be based on all available process data for that report year.

Rationale for Proposed Updates Section 95115(c)(2)(A)

This update clarifies that only process data from that report year can be used for determining the value of missing data.

Summary of Proposed Updates Section 95117(c)(3)

Section added to indicate that the missing data requirements only apply to data used for reporting emissions, not for product data.

Rationale for Proposed Updates Section 95117(c)(3)

Added for clarification on the use of missing data requirements.

Summary of Proposed Updates Section 95117(e)

The reporting requirements for lime production were modified to include the calculation of CO_2 used and reabsorbed onsite.

Rationale for Proposed Updates Section 95117(e)

For some industrial sectors that produce lime, such as sugar production, the CO_2 produced during the lime production is reintroduced into the manufacturing process, reabsorbed, and is not released to the atmosphere. This regulatory update requires reporting of the produced emissions that are not released to the atmosphere. This allows the captured emissions to be subtracted from the total reported CO_2 produced, providing an accurate accounting of the actual CO_2 emissions released to the atmosphere.

Section 95118. Nitric Acid Production.

Summary of Proposed Updates Section 95118(a)

This update corrects a clerical error in the citation of 40 CFR Part 98.

Rationale for Proposed Updates Section 95118(a)

This change is necessary to correct an incorrect citation.

Summary of Proposed Updates Section 95118(c)

Removed language in conjunction with update of the emissions data report definition.

Rationale for Proposed Updates Section 95118(c)

The updated definition for emissions data report rendered the removed language in this section obsolete.

Summary of Proposed Updates Section 95118(c)(2)

Added language in this section specifies that missing data substitution is allowed only for emissions data, not product data.

Rationale for Proposed Updates Section 95118(c)(2)

Language in this section was added to clarify its original intent.

Section 95119. Pulp and Paper Manufacturing

Summary of Proposed Updates Section 95119(c)

Removed language in conjunction with update of the emissions data report definition.

Rationale for Proposed Updates Section 95119(c)

The updated definition for emissions data report rendered the removed language in this section obsolete.

Summary of Proposed Updates Section 95119(d)

Included additional specifications for the reporting of tissue production.

Rationale for Proposed Updates Section 95119(d)

The update was needed to provide more specific and standardized information regarding tissue production.

Section 95120. Iron and Steel Production

Summary of Proposed Updates Section 95120(c)

Removed language in conjunction with update of the emissions data report definition.

Rationale for Proposed Updates Section 95120(c)

The updated definition for emissions data report rendered the removed language in this section obsolete.

Section 95121. Suppliers of Transportation Fuels.

Summary of Proposed Updates Section 95121(a)(2)

Language was inserted to specify that fuels used exclusively for aviation or marine applications are not considered transportation fuels, for the purposes of this article.

Rationale for Proposed Updates Section 95121(a)(2)

This language was added to clarify which fuels are required to be reported as transportation fuels per section 95121.

Section 95122. Suppliers of Natural Gas, Natural Gas Liquids, Liquefied Petroleum Gas, Compressed Natural Gas and Liquefied Natural Gas.

Section 95122 provides GHG reporting and calculation requirements for suppliers of natural gas, natural gas liquids, and liquefied petroleum gas. Section 95122 is applicable to local distribution companies (LDCs), interstate and intrastate pipeline operators, natural gas liquid fractionators, and consignees of liquefied petroleum gas, compressed natural gas, and liquefied natural gas.

Summary of Proposed Updates Section 95122(a)(2)

Updates included added language regarding intrastate pipelines, and the term 'provided' was changed to 'delivered.'

Rationale for Proposed Updates Section 95122(a)(2)

This change is necessary to identify that intrastate pipelines delivering gas to end-users are considered LDCs and that the natural gas suppliers must report all gas delivered, rather than sold, to entities on their distribution pipeline.

Summary of Proposed Updates Section 95122(a)(3)

The word "imported" was added to this paragraph to indicate that consignees should report only imported liquefied petroleum gas, compressed natural gas (CNG), and liquefied natural gas (LNG).

Rationale for Proposed Updates Section 95122(a)(3)

This change is necessary to clarify language in this section to specify the original intent of the article.

Summary of Proposed Updates Section 95122(a)(4)

Subparagraph 4 was added to 95122(a) that requires liquefied natural gas production facilities that are required to report GHG emissions per 95101(c)(10) to report emissions of CO_2, CH_4, and N_2O from all LNG delivered or sold to others, unless a final destination outside California can be demonstrated.

Rationale for Proposed Updates Section 95122(a)(4)

This language was added to ensure complete and consistent reporting of GHG emissions for all natural gas that is supplied within California.

Summary of Proposed Updates Section 95122(b)(2)

Language was added to this section that refers to the natural gas emission calculation equation specified in section 95122(b)(6).

Rationale for Proposed Updates Section 95122(b)(2)

This change is necessary to provide additional clarity regarding the data that must be used to calculate the CO_2i input parameters required in 95122(b)(6). This revision ensures consistency of reporting.

Summary of Proposed Updates Section 95122(b)(3)

Language was added to this section that refers to the natural gas emission calculation equation specified in section 95122(b)(6). Additional language was added requiring publicly owned natural gas utilities to follow the procedures in the paragraph.

Rationale for Proposed Updates Section 95122(b)(3)

This change is necessary to provide additional clarity regarding the data that must be used to calculate the CO_2j input parameters required in 95122(b)(6). This revision provides additional clarity regarding the data that must be used to calculate the CO_2j input parameters required in 95122(b)(6), and ensures that publicly owned natural gas utilities are required to calculate a CO_2j parameter. These revisions ensure consistency of reporting.

Summary of Proposed Updates Section 95122(b)(4)

Language was added to this section that refers to the natural gas emission calculation equation specified in section 95122(b)(6).

Rationale for Proposed Updates Section 95122(b)(4)

This change is necessary to provide additional clarity regarding the data that must be used to calculate the CO_2l input parameters required in 95122(b)(6). This revision ensures consistency of reporting.

Summary of Proposed Updates Section 95122(b)(6)

Language was added to this section that refers back to the subparagraphs (2),(3), and (4) of section 95122(b).

Rationale for Proposed Updates Section 95122(b)(6)

This change is necessary to provide additional clarity regarding the data that is necessary to determine the parameters CO_2i, CO_2j, and CO_2l in the natural gas emission calculation equation specified in this section.

Summary of Proposed Updates Section 95122(b)(9)

Language was added regarding reporting requirements for imported CNG and LNG.

Rationale for Proposed Updates Section 95122(b)(9)

This revision increases the clarity of the requirements for California consignees, and ensures consistent reporting of imported CNG and LNG.

Summary of Proposed Updates Section 95122(b)(10)

The term 'imported' was added to this section.

Rationale for Proposed Updates Section 95122(b)(10)

This revision clarifies that requirements in the section are applicable only to imported CNG/LNG. This ensures consistent reporting of CNG and LNG.

Summary of Proposed Updates Section 95122(b)(11)

Updates to this section add requirements for reporting of CO_2 emissions from LNG produced at production facilities that are required to report GHG emissions per section 95101(c)(10).

Rationale for Proposed Updates Section 95122(b)(11)

This change is necessary to provide a CO_2 emissions quantification method for LNG facilities that are required to report GHG emissions. This addition ensures there are no gaps in reporting CO_2 emissions from natural gas supplied in California.

Summary of Proposed Updates Section 95122(b)(12)

Updates to this section provide requirements for reporting of CH_4 and N_2O from LNG produced at production facilities required to report emissions per section 95101(c)(10).

Rationale for Proposed Updates Section 95122(b)(12)

This change is necessary to provide a CH_4 and N_2O emissions quantification method for LNG facilities that are require to report GHG emissions per section 95101(c)(10). This addition ensures there are no gaps in reporting CH_4 and N_2O emissions from natural gas supplied in California.

Summary of Proposed Updates Section 95122(b)(13)

This section is renumbered due to the addition of the sections above.

Rationale for Proposed Updates Section 95122(b)(12)

This change is necessary to ensure consistent reporting.

Summary of Proposed Updates Section 95122(d)(2)(D)

This revision requires all LDCs to report the annual gas quantity and receiving entity's name for each delivery of natural gas to other LDCs or interstate pipelines.

Rationale for Proposed Updates Section 95122(d)(2)(D)

This change is necessary to increase the transparency of natural gas suppliers' reported 'redeliveries' of natural gas. This information facilitates accurate calculation of each natural gas supplier's compliance obligation, and helps verifiers determine conformance with the emissions calculation procedures for natural gas suppliers.

Summary of Proposed Updates Section 95122(d)(2)(E)

Proposed updates will require LDCs to report the annual gas quantity, customer information, and ARB ID (if available) for all deliveries to end-users registering greater than 188,500 MMBtu. This revision also lowers the threshold for reporting end-user information from ~25,000 metric tons CO_2e of gas delivered to ~10,000 metric tons CO_2e of gas delivered.

Rationale for Proposed Updates Section 95122(d)(2)(E)

This change is necessary to facilitate a more accurate calculation of each natural gas supplier's compliance obligation. Previously, the threshold was only at ~25,000 metric tons CO2e, which does not completely account for all of the covered entities that need to be considered during the covered emissions calculation.

Summary of Proposed Updates Section 95122(d)(4)

Language was updated with regards to intrastate pipeline reporting requirements, specifying that when intrastate pipelines are required to report data, and allowing intrastate pipelines to subtract off gas quantities that are 'redelivered' to downstream LDCs or pipelines.

Rationale for Proposed Updates Section 95122(d)(4)

This change is necessary to clarify intrastate reporting requirements and enable more accurate reporting. The previous reporting requirements for intrastate pipelines were inconsistent with the requirements for other LDC categories.

Summary of Proposed Updates Section 95122(d)(5)

Proposed additions to this section require LNG production facilities required to report emissions per section 95101(c)(10) to report the annual quantity of LNG 'delivered and sold' in MMBtu.

Rationale for Proposed Updates Section 95122(d)(5)

This change is necessary to ensure LNG production facilities that are required to report GHG emissions are required to report relevant LNG delivery data.

Summary of Proposed Updates Section 95122(d)(6)

New language added to this section requires all LDCs that report exempt biomass emission from biomethane, to report the biomethane procurement information specified in section 95103(j).

Rationale for Proposed Updates Section 95122(d)(6)

This change is necessary to ensure that the supplier has the requisite data available for meeting the biomethane verification requirements in section 95131(i) and the requirements of section 95852.1.1 of the Cap-and-Trade regulation. This subparagraph was added to require local distribution companies that purchase and deliver biomethane on behalf of their end-users to report the necessary biomethane procurement information specified in section 95103(j).

Section 95123. Suppliers of Carbon Dioxide

Summary of Proposed Updates Section 95123(b)

Removed language in conjunction with update of the emissions data report definition.

Rationale for Proposed Updates Section 95123(b)

The updated definition for emissions data report rendered the removed language in this section obsolete.

Section 95124. Lead Production.

Summary of Proposed Updates Section 95124

Proposed update requires California facilities producing lead to report their process CO_2 emissions. This also includes requirements to report lead production data, missing data procedures, CO_2 combustion, and monitoring requirements.

Rationale for Proposed Updates Section 95124

Process emissions from lead facilities were not included in the previous GHG reporting regulations due to a lack of identified lead production facilities. ARB staff has identified operational lead production facilities in California and this update provides equitable reporting of process emissions across industry sectors that produce process emissions. Those subject to the new requirement already report the specified data under the U.S. EPA greenhouse gas reporting rule. Reporting of product data for the lead production sector is necessary to support the Cap-and-Trade program. Specifically, the reported product data are used to assign allowance allocations for the purpose of leakage prevention and provide a benefit to the affected facilities.

Subarticle 3. Additional Requirements for Reported Data

Section 95129. Substitution for Missing Data Used to Calculate Emissions from Stationary Combustion and CEMS Sources.

Summary of Proposed Updates Section 95129(c)(3)

Staff has changed “emissions from a source” to “a fuel characteristic data element.”

Rationale for Proposed Updates Section 95129(c)(3)

The change is necessary to clarify reporter and verifier questions received during program implementation.

Summary of Proposed Updates Section 95129(c)(3)(Table 1)

Proposed language in this section adds a default carbon content of 90 percent for other liquid or gaseous fuels, and a default carbon content of 100% for solid fuels not previously listed in Table 1 of section 95112(c)(3).

Rationale for Proposed Updates Section 95129(c)(3)(Table 1)

The addition of a default carbon content for other solid, liquid, or gaseous fuels not previously listed in the table gives reporters a simplifying option to substitute missing carbon content with a conservative high number if historical company records pursuant to paragraph 95129(c)(3)(B) are not available. The reporters who choose this option would be reporting an overestimation of emissions in exchange for the simplifying approach. A higher default carbon content for solid fuels is being proposed because some fuels used in California exceed 90% carbon on a mass basis.

Subarticle 4. Requirements for Verification of Greenhouse Gas Emissions Data Reports and Requirements Applicable to Emissions Data Verifiers; Requirements for Accreditation of Emissions Data and Offset Project Data Report Verifiers

Section 95130. Requirements for Verification of Emissions Data Reports.

Summary of Proposed Updates Section 95130(a)(1)(D)

Updated language no longer requires full verification services in the event of a change in ownership the prior year. Instead, the update requires full verification services when a change in operational control occurs during the data collection year subject to verification or during the following year prior to the conclusion of verification services.

Rationale for Proposed Updates Section 95130(a)(1)(D)

This change is necessary to address the need to require full verification services during change of operational control, due to the higher risk of errors that may occur from a change in management.

Summary of Proposed Updates Section 95130(a)(2)

The proposed change includes more types of third-party verifications in determining the time allowed for ARB verification services. Types of third-party verifications include verification services conducted under this article, third-party certification of environmental management systems under ISO 14001 standards or energy management systems under ISO 50001, and other verifications conducted in accordance with, or equivalent to, section 95133. The six year limit is only applicable to any third-party verifications that include the scope of activities under the ARB identification number for the emissions data report. The six year limitation on any third-party verification services does not reset upon a change in reporting entity ownership or operational control. The update also clarifies the beginning and end dates that establish the six year limitation.

Rationale for Proposed Updates Section 95130(a)(2)

The change is necessary to clarify the six year limitation, a condition for maintaining verifier independence, which applies to conducting ARB verification services.

Section 95131. Requirements for Verification Services.

Summary of Proposed Updates Section 95131(a)(2)(C)

The proposed change indicates that lead production requires a process specialist accreditation in order to perform verification services.

Rationale for Proposed Updates Section 95131(a)(2)(C)

This change is necessary to ensure consistency in the accreditation of process emission specialists as verifiers.

Summary of Proposed Updates Section 95131(b)(8)(A),(B)

The proposed language adds section 95158 of the reporting regulation, which was added to the mandatory reporting regulation in 2012.

Rationale for Proposed Updates Section 95131(b)(8)(A),(B)

Section 95158 was added to the mandatory reporting regulation in 2012, but previously not included in this section. This additional language corrects that oversight.

Summary of Proposed Updates Section 95131(b)(8)(D)

Proposed updates in this section separate the requirements for data checks to determine reasonable assurance of no material misstatement, from data checks to determine reasonable assurance of conformance. The proposed update also specifies that covered emissions and covered product data are evaluated for material misstatement.

Rationale for Proposed Updates Section 95131(b)(8)(D)

This change is necessary to separate the requirements for data checks to determine reasonable assurance of no material misstatement from data checks to determine reasonable assurance of conformance. The proposed also specifies that it is “covered” emissions and “covered” product data that are evaluated for material misstatement.

Summary of Proposed Updates Section 95131(b)(8)(F)

This proposed update acknowledges that verifiers use data checks to assess reasonable assurance of reporting entity conformance with the mandatory reporting regulation requirements and specifies that specific regulatory requirements must be included in the risk assessment for conformance review.

Rationale for Proposed Updates Section 95131(b)(8)(F)

This change is necessary to clarify that specific mandatory reporting requirements must be included in the risk assessment for conformance review, because the importance of this data is not otherwise made clear relative to other regulatory provisions.

Summary of Proposed Updates Section 95131(b)(8)(F)(1)

The proposed change makes explicit the requirement for verifiers to review the accuracy of the natural gas MMBtu reported under section 95115(k) by facilities that combust natural gas.

Rationale for Proposed Updates Section 95131(b)(8)(F)(1)

This change is necessary to ensure the volumes reported by the natural gas suppliers are accurate for the purposes of calculating a compliance obligation for natural gas suppliers.

Summary of Proposed Updates Section 95131(b)(8)(F)(2)

The proposed change makes explicit the requirement for verifiers to review the accuracy of end-users deliveries reported under section 95122(d)(4) by natural gas local distribution companies.

Rationale for Proposed Updates Section 95131(b)(8)(F)(2)

This change is necessary to ensure end-user information provided by natural gas suppliers is accurate for purposes of calculating a compliance obligation for natural gas suppliers.

Summary of Proposed Updates Section 95131(b)(8)(F)(3)

The proposed change makes explicit the requirement for verifiers to review the electricity provider information, reported under section 95104(d)(1).

Rationale for Proposed Updates Section 95131(b)(8)(F)(3)

This change is necessary to ensure accurate values are reported, which are used in the greenhouse gas inventory data.

Summary of Proposed Updates Section 95131(b)(8)(G)

Renumbered from F to accommodate new section.

Rationale for Proposed Updates Section 95131(b)(8)(G)

Renumbered to accommodate new section.

Summary of Proposed Updates Section 95131(b)(9)

Proposed updates clarify that correctable errors in reported covered and non-covered emissions, or in supporting parameters used in emissions calculations, must be fixed. The update also requires that correctable errors in reported covered product data must be fixed. Verifiers must use professional judgment to determine whether a discrepancy is a correctable error as defined pursuant to the proposed definition of correctable errors. Additionally, the source of the discrepancy must be documented by the verifier.

Rationale for Proposed Updates Section 95131(b)(9)

This change is necessary based on experience gained during implementation of the reporting regulation in prior years.

Summary of Proposed Updates Section 95131(b)(12)(B)

The proposed change clarifies that accuracy differences due to missing data substitution do not impact the material misstatement assessment.

Rationale for Proposed Updates Section 95131(b)(12)(B)

Based on questions that arose during implementation, the proposed change is necessary to clarify that accuracy differences due to missing data substitution do not impact the material misstatement assessment.

Summary of Proposed Updates Section 95131(b)(12)(C)

The proposed change allows a reporting entity to exclude inaccurate covered product data from the material misstatement assessment. Additionally, the verification statement may be calculated based upon a lower value of reported covered product data. Covered product data for the cement sector is summed for a single assessment of reasonable assurance of material misstatement and is excluded from this change.

Rationale for Proposed Updates Section 95131(b)(12)(C)

The proposed change, allowing exclusion of covered product data from the material misstatement assessment, is necessary to recognize that a portion of covered product data does demonstrate a reasonable assurance of no material misstatement. This change is not applicable to the cement sector because the covered product data include parameters in the Cap-and-Trade allocation of allowances equation that are in a numerator and a denominator.

Summary of Proposed Updates Section 95131(b)(13)

The proposed change deletes text in paragraph 95131(b)(13)(B) that was equivalent to the text in paragraph 95131(b)(13)(C) and moves the requirement in paragraph 95131(b)(13)(C) to paragraph 95131(b)(13)(B). In addition, the proposed language adds section 95158 of the reporting regulation, which was added to the mandatory reporting regulation in 2012.

Paragraph 95131(b)(13)(D) was re-lettered to paragraph (C). The proposed change clarifies that it is the required emissions calculation methodology that is the basis for a finding of non-conformance when data capture is less than the specified amount.

Paragraph 95131(b)(13)(E) was re-lettered to paragraph (D).

Rationale for Proposed Updates Section 95131(b)(13)

The proposed changes are necessary for clarification purposes, based on questions received from verifiers during implementation.

Summary of Proposed Updates Section 95131(b)(14)

The proposed change expands section 95131(b)(14) to include the requirements for assessment of covered product data reported by petroleum refinery operators for the transition from the first compliance period to the second compliance period. Multiple covered product data verification statements are required for 2013 and 2014 data. Additionally, the requirements for primary refinery products, the Solomon EII, carbon dioxide weighted tonne and complexity weighted barrel are outlined.

Rationale for Proposed Updates Section 95131(b)(14)

The updates specifying the requirements for assessment of covered product data reported by petroleum refinery operators are needed to ensure a smooth transition from the first to the second compliance period for the Cap-and-Trade regulation. Multiple covered product data verification statements are required for 2013 and 2014 emissions data reports to document the material misstatement assessment of primary refinery product data and conformance assessment of the Solomon Energy Intensity Index separate from the material misstatement assessments of the CO_2 weighted tonne and complexity weighted barrel.

Summary of Proposed Updates Section 95131(c)(1)

Updated language allows for two separate covered product data verification statements.

Rationale for Proposed Updates Section 95131(c)(1)

Two separate covered product data verification statements are required for 2013 and 2014 emissions data reports to document the material misstatement assessment of primary refinery product data and conformance assessment of the Solomon Energy Intensity Index separate from the material misstatement assessment of the CWT value and conformance assessment of throughput values.

Summary of Proposed Updates Section 95131(c)(3)

Updated language allows for multiple covered product data verification statements.

Rationale for Proposed Updates Section 95131(c)(3)

Two separate covered product data verification statements are required for 2013 and 2014 emissions data reports to document the material misstatement assessment of primary refinery product data and conformance assessment of the Solomon Energy Intensity Index separate from the material misstatement assessment of the CWT value and conformance assessment of throughput values.

Summary of Proposed Updates Section 95131(c)(4)

Proposed updates specify that a modified report and the adverse verification statement must be submitted to ARB by the deadline for purposes of the petition process.

Rationale for Proposed Updates Section 95131(c)(4)

Based on feedback from reporters and verifiers during previous reporting years, this was a needed clarification.

Summary of Proposed Updates Section 95131(e)

The update clarifies implementation of the verification statement set aside process, which may take place at the Executive Officer's discretion. The change clarifies a set aside may be considered when an error is identified after the verification deadline or when the emissions data report fails an ARB audit. In addition, changes that do not affect covered emissions, non-covered emissions, or covered product data may occur without a set aside of the verification statement.

Rationale for Proposed Updates Section 95131(e)

This change is necessary to clarify implementation of the verification statement set aside and report modification.

Summary of Proposed Updates Section 95131(i)(1)(B)(1)

Updated reference to the Cap-and-Trade regulation.

Rationale for Proposed Updates Section 95131(i)(1)(B)(1)

For consistency with the Cap-and-Trade regulation, the reference in this section was updated.

Section 95132. Accreditation Requirements for Verification Bodies, Lead Verifiers and Verifiers of Emissions Data Reports and Offset Project Data Reports.

Summary of Proposed Updates Section 95132(b)(1)(A)(2)

Updated language clarifies that an employee used to meet minimum staff requirements for the purposes of verification body (VB) accreditation must be employed by the VB.

Rationale for Proposed Updates Section 95132(b)(1)(A)(2)

This change is necessary to clarify that the five staff used to meet the requirements for verification body accreditation must be employed. The previous language was ambiguous.

Summary of Proposed Updates Section 95132(b)(1)(C)

Added language specifies that the liability insurance requirement for accredited VBs is for professional liability insurance and not another type, such as general liability or an umbrella policy.

Rationale for Proposed Updates Section 95132(b)(1)(C)

This change is necessary to clarify that only professional liability insurance is sufficient for meeting the requirements for verification body accreditation

Summary of Proposed Updates Section 95132(b)(5)(B)

Reference to a specific section of the Cap-and-Trade section has been removed.

Rational for Proposed Updates Section 95132(b)(5)(B)

This section was updated to improve referencing consistency with the Cap-and-Trade regulation.

Summary of Proposed Updates Section 95132(d)

Added language to the title of this section to include the new requirement in section 95131(d)(4).

Rationale for Proposed Updates Section 95132(d)

This change is necessary to ensure consistency in the reporting regulation.

Summary of Proposed Updates Section 95132(d)(4)

New language in this section allows a verifier or VB to voluntarily withdraw from the mandatory reporting program without being suspended or revoked.

Rationale for Proposed Updates Section 95132(d)(4)

This change is necessary to allow a simpler process for a verifier or verification body to withdraw from the program.

Section 95133. Conflict of Interest Requirements for Verification Bodies.

Summary of Proposed Updates Section 95133(a)

New proposed language indicates that all subcontracting companies are also bound by the conflict of interest (COI) under this article.

Rationale for Proposed Updates Section 95133(a)

This change is necessary to clarify that COI requirements extend to other companies that contract with verification bodies on behalf of the reporting entities.

Summary of Proposed Updates Section 95133(b)(2)

Proposed updates specify that the assessment of services qualifying as a potential for high conflict, and that the high COI criteria also apply to any verifiers as well as subcontractors on the verification team.

Rationale for Proposed Updates Section 95133(b)(2)

This change is necessary to clarify which individuals are considered in the evaluation of high COI services.

Summary of Proposed Updates Section 95133(b)(2)(L)

Updated language specifies that high COI services related to development of environmental management systems (EMS), including an EMS conforming to the ISO 14001 or 50001 standard, constitutes the potential for a high risk of conflict of interest when the EMS scope includes activities that are also within the scope of GHG-emitting activities included in the emissions data report..

Rationale for Proposed Updates Section 95133(b)(2)(L)

This change is necessary to clarify which services related to management systems are considered high COI services, as opposed to those which are not high COI, as explained in section 95133(c)(3).

Summary of Proposed Updates Section 95133(b)(2)(T)

The proposed change clarifies that providing third-party verifications, other than ARB verification services, does not constitute a potential for a high conflict of interest, if conducted in accordance with the COI and impartiality requirements of this section, but those services must be included in the determination of the six-year limit.

Rationale for Proposed Updates Section 95133(b)(2)(T)

The proposed change, in conjunction with section 95133(c)(3), is needed to clarify that verifications that do not conform to requirements equivalent to those laid out in this section are considered high COI services.

Summary of Proposed Updates Section 95133(c)(2)

The proposed changes clarify that any third-party verifications provided to the reporting entity must be disclosed to ARB in the COI submittal. However, such third-party verifications are not subject to the 20 percent of fee threshold for determining medium COI, as long as those services are consistent with standards that are equivalent to those laid out in section 95133.

Rationale for Proposed Updates Section 95133(c)(2)

This change is necessary to clarify which services provided to a reporting entity are subject to the 20% threshold used to determine medium potential for COI, and clarifies that all services without exception must be disclosed to ARB.

Summary of Proposed Updates Section 95133(c)(3)

The proposed change clarifies that third-party verifications conducted outside of ARB's jurisdiction may still be considered low risk if they are conducted in accordance with, or equivalent to, section 95133, including, but not limited to, third-party certification of environmental management systems under the ISO 14001 standard or energy management systems under the ISO 50001 standard.

Rationale for Proposed Updates Section 95133(c)(3)

This change is needed to expand the scope of acceptable verification services beyond those provided under the auspices of California Climate Action Registry, The Climate Registry, and Climate Action Reserve. This change is consistent with our understanding that some verification bodies provide similar services to reporting entities as an independent auditor and that these services do not significantly increase the potential for COI, provided the verification team provides those services consistent with the principles laid out in section 95133 of the reporting regulation.

Summary of Proposed Updates Section 95133(g)(2)

Corrected a clerical error in the section.

Rationale for Proposed Updates Section 95133(g)(2)

Correction of errors further clarifies the original intent of the section.

Subarticle 5.

Reporting Requirements and Calculation Methods for Petroleum and Natural Gas Systems

Section 95150. Definition of the Source Category.

Summary of Proposed Updates Section 95150(a)(2)

This section was updated to address the reporting of an onshore production facility that processes an emulsion.

Rationale for Proposed Updates Section 95150(a)(2)

This change was necessary to address the reporting of an emulsion by an onshore petroleum and natural gas production facility. This update supports product data reporting for the Cap-and-Trade program.

Section 95151. Reporting Threshold.

Summary of Proposed Updates Section 95151(a)

This section was edited for clarity and now refers reporters to the appropriate information found in the reporting threshold in section 95101.

Rationale for Proposed Updates Section 95151(a)

This change is necessary to provide clarity on the reporting thresholds for petroleum and natural gas systems.

Section 95152. Greenhouse Gases to Report.

Summary of Proposed Updates Section 95152(c)

This change was added to indicate that this industry segment also includes equipment to which an emulsion is transferred.

Rationale for Proposed Updates Section 95152(c)

This change is necessary to maintain consistency with the onshore petroleum and natural gas production industry segment description in section 95150(a)(2).

Summary of Proposed Updates Section 95152(c)(6)

Section 95152(c)(6) was updated to require reporting of well completion and workover emissions from all oil wells in addition to all gas wells.

Rationale for Proposed Updates Section 95152(c)(6)

This change is necessary to ensure the reporting of emissions from the oil wells completed and/or worked-over each year in California is completed. This will result in more complete emissions coverage because the majority of wells in California are oil wells.

Summary of Proposed Updates Section 95152(c)(15) and (16)

Emissions from crude oil and condensate, produced water, which are all described in section 95153(v), have been combined.

Rationale for Proposed Updates Section 95152(c)(15) and (16)

This change consolidates and clarifies the two reporting requirements which use the same methodology, a flash liberation test.

Summary of Proposed Updates Section 95152(c)(17), (18)

These sections were renumbered due to updates in the preceding sections.

Rationale for Proposed Updates Section 95152(c)(17), (18)

For completeness, these sections were renumbered when updates were made in prior sections.

Section 95153. Calculating GHG Emissions.

Summary of Proposed Updates Section 95153(c)(7)(A, B, C)

The three subsections of 95153(c)(7) were updated to edit clerical oversights.

Rationale for Proposed Updates Section 95153(c)(7)(A, B, C)

The sections were renumbered to keep consistency with the remainder of the mandatory reporting regulation.

Summary of Proposed Updates Section 95153(f)

Emissions reporting from all gas well completions and workovers were added to this reporting requirement. Previously, only emissions from gas well completions and workovers were to be reported.

Rationale for Proposed Updates Section 95153(f)

The inclusion of an emissions reporting requirement for gas wells completions and workovers will cover emissions from the oil wells drilled and completed or worked-over in California each year.

Summary of Proposed Updates Section 95153(f)(1)

The subscripts for the variable $V_{CO2/N2}$ in Equation 8 were edited for clarity. They should indicate $V_{CO2\ or\ N2}$, which is the proposed change.

Rationale for Proposed Updates Section 95153(f)(1)

The subscript updates are proposed for clarity purposes.

Summary of Proposed Updates Section 95153(h)

The title of this section was updated to correct a disconnect between the reporting requirements in section 95152(c)(8) and the reporting methods in this section.

Rationale for Proposed Updates Section 95153(h)

This change is necessary to define which emissions the reporting requirement found in section 95153(c)(8) requires.

Summary of Proposed Updates Section 95153(j)(3)

Staff has amended this section to correct the term “basin.” Previously, this was listed as a “sub basin.”

Rationale for Proposed Updates Section 95153(j)(3)

This change is necessary to correctly identify the “basin” term used in the equation.

Summary of Proposed Updates Section 95153(m)(1)(C)(2)

For consistency with the other sections in this article, section 95153(m)(1)(D) was renumbered to 95153(m)(1)(C)(2).

Rationale for Proposed Updates to Sections 95153(m)(1)(C)(2) and 95153(m)(3)

These proposed changes correct errors in a section number which was inconsistent with formatting in the section.

Summary of Proposed Updates Section 95153(m)(3)

Updates in this section corrected a typographical error.

Rationale for Proposed Updates Section 95153(m)(3)

This update corrects a typographical error.

Summary of Proposed Updates Section 95153(o)

For consistency with the other sections in this article, the industry section applicability was renumbered for onshore petroleum and natural gas production.

Rationale for Proposed Updates Section 95153(o)

This change is necessary for reporting consistency.

Summary of Proposed Updates Section 95153(p)

A typographic error has been corrected in this section where previously reporters were directed to use an incorrect methodology. Oil and gas production facilities will now be permitted to use either 95153(o) or (p) to estimate leaks.

Rationale for Proposed Updates Section 95153(p)

This is necessary to ensure that reporters have flexibility in reporting emissions from leaks and to align the reporting requirements with those from U.S.EPA.

Summary of Proposed Updates Section 95153(p)(6)

Two clerical issues are updated. In the definition of Equation 28 variables, the value $E_{s,i}$ should be derived from Equation 26 rather than 27, and the definition of the variable "Count" should refer to section (o)(8)(A) rather than (p)(8)(i).

Rationale for Proposed Updates Section 95153(p)(6)

Text which referred to an updated equation number and updated regulation section has been updated for consistency.

Summary of Proposed Updates Section 95153(u)

The description of variable V_v was added to Equation 33.

Rationale for Proposed Updates to Section 95153(u)

The added variable description corrects a prior omission from this equation.

Summary of Proposed Updates Section 95153(v)

A requirement to report the volume of produced water was added.

Rationale for Proposed Updates Section 95153(v)

The additional data reporting requirements were added to help ARB better assess this emission source.

Summary of Proposed Updates 95153(v)(1)(A)(1)

Language was added that references Appendix B of the regulation instead of other methods and also adds a reporting requirement for including the test results from the flash liberation test as part of the emissions data report.

Rationale for Proposed Updates 95153(v)(1)(A)(1)

These changes were necessary to ensure a California-specific method is used for the flash liberation test and the results are readily available for staff assessment, respectively.

Summary of Proposed Updates 95153(v)(1)(A)(2)(e)

Added language indicating the inclusion of the vapor recovery method in the test method.

Rationale for Proposed Updates 95153(v)(1)(A)(2)(e)

This change was necessary to direct the regulated entity to correct method to use for the evaluation of vapor recovery.

Summary of Proposed Updates Sections 95153(y)(1) and 95153(y)(1)(A)

Text was added to sections 95153(y)(1) and 95153(y)(1)(A) to ensure that the blending of fuels from Table C-1 of 40 CFR part 98 are reported using the correct data Tier.

Rationale for Proposed Updates Sections 95153(y)(1) and 95153(y)(1)(A)

This change is necessary to clarify an operator of onshore petroleum and natural gas systems reporting requirements with regards to blended fuel.

Summary of Proposed Updates Section 95153(y)(2)

Text was added to section 95153(y)(2) to correct a typographical error.

Rationale for Proposed Updates Section 95153(y)(2)

This change is necessary to correct a typographical error to ensure consistent reporting.

Summary of Proposed Updates Section 95153(y)(2)(A)

Text in section 95153(y)(2)(A) was edited to clarify that the common-pipe method is acceptable to use for this reporting requirement.

Rationale for Proposed Updates Section 95153(y)(2)(A)

This change is necessary to ensure a reporting entity can aggregate their reported emissions using the common pipe measurement to ensure the accuracy and completeness of their reported data.

Summary of Proposed Updates Section 95153(y)(2)(C)

Equations 35 and 36 were edited to indicate that monthly sampling is required. Text was added indicating that the volumetric natural gas emissions calculation using Equations 35 and 36 must be converted to GHG mass emissions. A provision to allow the use of measured HHV rather than the default value was also added.

Rationale for Proposed Updates Section 95153(y)(2)(C)

These changes are necessary to ensure the correct emissions values are reported. Without a reference to the sections that convert volumetric values to GHG emissions, reporters may report the wrong data.

Summary of Proposed Updates Section 95153(y)(2)(D)

A provision to allow the use of measured HHV rather than the default value was also added for the calculation of N_2O emissions. The term 'mmBtu' was changed to 'MMBtu.'

Rationale for Proposed Updates Section 95153(y)(2)(D)

This change is necessary to ensure an accurate representation of the high heat value measurements. Also, changes were made to the term 'MMBtu' to ensure consistent notation throughout the reporting regulation.

Summary of Proposed Updates Sections 95153(y)(3)-(4)

Typos were corrected in these sections for consistent denotations of MMBtu.

Rationale for Proposed Updates Sections 95153(y)(3)-(4)

This change is necessary to ensure consistency in reporting.

Section 95154. Monitoring and QA/QC Requirements.

Summary of Proposed Updates Section 95154(a)(1)

A typographical was corrected in three places in the section.

Rationale for Proposed Updates Section 95154(a)(1)

The word imaging was misspelled in three places.

Summary of Proposed Updates Section 95154(f)

The section on best available monitoring methods was removed from the proposed regulation.

Rationale for Proposed Updates Section 95154(f)

This change is necessary because the use of best available monitoring methods is no longer allowed as of January 1, 2013.

Section 95155. Procedures for Estimating Missing Data.

Summary of Proposed Updates Section 95155

Removed historical references to prior data years.

Rationale for Proposed Updates Section 95155

For consistency, reference to prior data reporting years has been removed.

Section 95156. Additional Data Reporting Requirements.

Summary of Proposed Updates Sections 95156(a)(7)-(10)

Similar clarifying text has been added indicating that oil and associated gas products associated with an emulsion needs to be reported in these sections.

Rationale for Proposed Updates Sections 95156(a)(7)-(10)

This change is necessary to ensure an operator that has an emulsion reports the product data associated with it in these sections.

Summary of Proposed Updates Section 95156(a)(11)

This section has been deleted.

Rationale for Proposed Updates Section 95156(a)(11)

This change is necessary because the provisions contained in this section are no longer applicable.

Summary of Proposed Updates Section 95156(b)

This change requires reporting of the annual volume of dry gas produced in MMBtu as opposed to Mscf. It also deletes regulatory text that is no longer applicable.

Rationale for Proposed Updates Section 95156(b)

These changes are necessary to ensure consistent reporting and to ensure that the reporting of dry gas is completed in the correct units to support the Cap-and-Trade program.

Summary of Proposed Updates Section 95156(c)

This section has been removed from the proposed regulation, and following sections are renumbered. Amended section 95156(c) has language that specifies onshore petroleum and natural gas production facilities with a gas plant that produces less than 25 MMscf per day must also report under this section.

Rationale for Proposed Updates Section 95156(c)

This change is necessary to ensure consistent reporting of product data in this section, which is used to support the Cap-and-Trade program.

Summary of Proposed Updates Section 95156(d)

The entire paragraph has been removed in the proposed regulation due to removal of references to historical data. The amended paragraph (d) requirement added for onshore natural gas processing facilities ensures that onshore natural gas processing facilities that have a throughput greater than 25 MMscf per day must report their volumes of associated gas, dry gas and natural gas processed.

Rationale for Proposed Updates Section 95156(d)

This change is necessary to remove obsolete historical references. The amended paragraph (d) requirements are designed to support the allocation of allowances under the Cap-and-Trade program.

Section 95157. Activity Data Reporting Requirements.

Summary of Proposed Updates Section 95157(c)(6)

Added requirement to report number of oil well completions and workovers as per section 95153(f).

Rationale for Proposed Updates Section 95157(c)(6)

This new reporting requirement is added to ensure that both oil and gas producers report activity data as required in the section 95153(f).

Summary of Proposed Updates Section 95157(c)(9)

The incorrect spelling of the word imaging has been corrected.

Rationale for Proposed Change to section 95157(c)(9)

Typos must be corrected to avoid confusion.

Summary of Proposed Updates Section 95157(c)(18)(B)

Methane was added to the reporting requirements for EOR emissions reporting.

Rationale for Proposed Updates Section 95157(c)(18)(B)

Both CO_2 and CH_4 are released during the blowdown of EOR equipment and the requirement to report CH_4 was inadvertently omitted during previous regulatory revisions.

Summary of Proposed Updates Section 95157(c)(19)(H)

Proposed language adds the requirement to report volumes (Mscf) of associated gas using both thermally enhanced and non-thermally enhanced production.

Rationale for Proposed Updates Section 95157(c)(19)(H)

This new language supports the GHG inventory reconciliation with the total statewide amounts of associated gas produced, as obtained by the Division of Oil, Gas and Geothermal Resources (DOGGR).

This data will also allow a direct comparison with DOGGR data on a field basis to better quality assure data has been reported correctly and consistently to both state agencies (CARB and DOGGR). Finally, this data will allow GHG inventory staff to obtain a statewide average heat content for associated gas (since it will have both the MMBtu and Mscf values) to replace its current default value for a more robust inventory dataset.

It is understood that this data (Mscf) is already measured by the reporters and would impose no new additional measurement requirements on them, it would simply require the reporting of this already measured data to CARB.

Appendix B

This appendix contains the ARB Test Procedure which is referenced in Section 95153(v) of the reporting regulation. This test procedure details an ARB methodology for the testing and determination of emissions via a flash liberation test.

Summary of Proposed Updates Appendix B

Appendix B has been added to the reporting regulation. The Appendix consists of a flash liberation test procedure developed by ARB. Section 95153(v) requires the use of a flash liberation test as a means of determining GHG emissions from produced water, crude oil, and condensate.

Rationale for Proposed Updates Appendix B

This change is necessary to conduct a flash liberation test on produced water and crude oil/condensate fractions. The test procedure in Appendix B was developed by ARB and is included in the reporting regulation for use by reporters.

VIII. PUBLIC PROCESS FOR DEVELOPMENT OF PROPOSED ACTION

Public Outreach

In developing the proposed amendments, staff presented initial ideas for discussion at a public workshop held on June 26, 2013. An informal discussion draft of proposed revisions to the regulation was released on July 17, 2013, to receive comments and feedback from stakeholders. In response to requests from stakeholders, staff held numerous one-on-one and small group teleconferences to discuss and refine the proposed revisions to the mandatory reporting regulation. Staff considered the informal comments provided during and after these meetings, in crafting the staff proposal (ARB Workshop Comments 2013).

IX. REFERENCES AND DOCUMENTS RELIED UPON

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16. EPA Method 15 "*Determination of Hydrogen Sulfide, Carbonyl Sulfide, and Carbon Disulfide Emissions from Stationary Sources,"* 1996.

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