

OVERVIEW

PRELIMINARY DRAFT REGULATION FOR A CALIFORNIA CAP-AND-TRADE PROGRAM

- FOR PUBLIC REVIEW AND COMMENT -

November 24, 2009

CALIFORNIA CAP ON GREENHOUSE GAS EMISSIONS AND MARKET-BASED COMPLIANCE MECHANISMS

**IN ACCORDANCE WITH
CALIFORNIA GLOBAL WARMING SOLUTIONS ACT of 2006 (AB 32)**

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NOTES FOR REVIEWERS:

- The following proposal for a California cap-and-trade program is a preliminary draft only.
- Some sections of the draft are incomplete. We are continuing work on these sections.
- We appreciate the comments you can provide, which will help us prepare the proposed regulatory language.
- We will discuss the preliminary draft language during a workshop on December 14, 2009. We will post information on the workshop at <http://www.arb.ca.gov/cc/capandtrade/meetings/meetings.htm>.
- The regulatory text is located here:
<http://www.arb.ca.gov/cc/capandtrade/meetings/121409/pdr.pdf>.
- To be most helpful, we would like to receive your comments on this preliminary draft by January 11, 2010 so we can best incorporate your ideas. Please submit your comments here:
[http://www.arb.ca.gov/lispub/comm2/bcsubform.php?listname=dec-14-pdr-
ws&comm_period=1](http://www.arb.ca.gov/lispub/comm2/bcsubform.php?listname=dec-14-pdr-ws&comm_period=1).
- We will use the comments received to prepare a proposed regulation and preliminary staff report for public comment in Spring 2010.
- A final proposed draft regulation will be available for public review in Summer 2010.
- The Board is scheduled to consider the final draft at its October 2010 meeting.

Overview

California Cap-and-Trade Program Preliminary Draft Regulation (PDR)

INTRODUCTION

Under State law¹, California must reduce greenhouse gas (GHG) emissions to 1990 levels by 2020. The AB 32 Scoping Plan² calls for a California cap-and-trade program that links with other regional partner jurisdictions in the Western Climate Initiative (WCI) to create a regional market system. As such, cap and trade is one of the key measures that California will employ to reduce the State's impact on climate change. As adopted in the Scoping Plan, the cap-and-trade program would establish a cap covering about 85 percent of the State's GHG emissions and allow trading to ensure cost-effective emissions reductions. The cap-and-trade regulation will set up the framework and requirements for participation in the cap-and-trade program.

The preliminary draft regulation (PDR) reflects the approach to cap-and-trade approved by the Board in the AB 32 Scoping Plan. This approach includes:

- Requiring sources of GHG emissions to manage their emissions under an aggregate declining emissions cap that supports achieving the 2020 emissions target mandated by AB 32.
- Starting the program in 2012 with about 600 of the state's largest GHG-emitting stationary sources (primarily industrial sources and electricity generators), along with electricity imports.
- Including emissions from transportation fuel combustion (e.g., gasoline, diesel, ethanol), and from fuel combustion at stationary sources that fall below the threshold for direct inclusion in the program (e.g. residential and commercial natural gas combustion) by covering the suppliers of fuel to these sources.
- Requiring a minimum number of allowances to be auctioned at program start.
- Allowing limited use of high quality offsets outside of capped sectors to cover a portion of the overall emissions reductions.
- Establishing clear rules for emissions trading, monitoring, and enforcement.

This document is the preliminary draft regulation (PDR), and conveys, at a conceptual level, ideas on how to design a broad-based multi-sector cap-and-trade program that will work with the complementary measures to reduce emissions to meet the 2020 statewide limit as required under AB 32. A California cap-and-trade program would include a stringent declining emissions cap. Emissions trading and the limited use of offsets would provide flexibility for covered entities to comply.

¹ [Assembly Bill 32](#), the Global Warming Solutions Act, requires California to develop [regulations](#) that will reduce greenhouse gas emissions to 1990 levels by 2020.

² <http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>

The PDR combines preliminary regulatory language on cap-and-trade process and structure, along with narrative text that describes significant issues for which specific regulatory language has not yet been developed. In some cases, placeholders mark areas where language will be developed in the future. ARB is seeking your input on the PDR, including concepts and options that are contained within the body of the document.

Most of 2009 has been spent working through the overall options for program design. The conceptual framework of the PDR is the result of a great deal of public consultation including 21 public meetings to discuss and share ideas on the appropriate structure of the cap-and-trade program. ARB would like to emphasize that release of this document marks the beginning of the next phase of the cap-and-trade rulemaking. Over the next year, we will continue our public outreach effort, culminating in the Board's consideration in 2010 of the first broad-based GHG cap-and-trade program in the nation.

The PDR also includes a preview of upcoming regulatory revisions to ARB's Mandatory Reporting regulations for greenhouse gases (GHG) to accommodate a wider range of facilities and entities than are currently required to report their emissions. More detailed proposed regulatory language on this necessary complement to the cap-and-trade program will be released in the spring of 2010.

The Western Climate Initiative

The Western Climate Initiative³ (WCI) is a collaboration of seven western states, including California, and four Canadian provinces that have joined together to find mutual ways to reduce greenhouse gases in the region.

The centerpiece of the WCI strategy is a regional cap-and-trade program. The WCI released the design of its program in September 2008. This PDR is consistent with that design. By 2015, a comprehensive program could cover nearly 90 percent of the GHG emissions in WCI states and provinces. ARB believes that a regional cap-and-trade program would help lower the costs of reducing emissions, contributing to a cleaner environment while also driving the kinds of investment and innovation that accelerate growth in the clean technology sector.

Cap and Trade

In its most basic sense, cap and trade is a regulatory approach used to control pollution by setting a firm cap on allowed emissions while employing market mechanisms to achieve emissions reductions while driving costs down.

³ For more information on the WCI, please go to www.westernclimateinitiative.org/

In a cap and trade program, a limit, or *cap* is put on the amount of pollutants (GHGs) that can be emitted. Each allowance equals one metric ton of carbon dioxide equivalent⁴. The total number of allowances created is equal to the cap set for cumulative emissions from all the covered sectors. These allowances may be auctioned and/or freely given to companies or other groups. In addition to allowances, a limited amount of emissions reductions from sources that are outside the cap coverage, called *offsets*, could be authorized. This would allow emissions in the capped sectors to slightly exceed the allowances issued. The term *compliance instruments* covers both allowances and offsets. After initial distribution of allowances—or in the use of offsets—compliance instruments may be traded among entities. At the end of each *compliance period*, covered entities are required to turn in, or *surrender*, enough compliance instruments to match their emissions during this time period.

Fundamental Design Elements of a Cap-and-Trade Program

The following elements constitute the basic components of a cap-and-trade program consistent with what is being proposed in the PDR.

The Cap

The cap is set for each compliance period, the first of which will begin on January 1, 2012. Compliance periods could be three years in duration (e.g., 2012 to 2014, 2015 to 2017, and 2018 to 2020). ARB is considering requiring entities to surrender a portion of their reported emissions each year during the three year compliance period. We are also considering shortening the compliance period to one year.

We are considering how to phase in sectors into the program. Under the staggered approach that was outlined in the Scoping Plan, entities in the following sectors would be covered in the program according to the following timelines:

Starting in the first compliance period (2012):

- Electricity generation, including imports
- Large industrial sources and processes at or above 25,000 MTCO₂e

Starting in the second compliance period (2015):

- Industrial fuel combustion at facilities with emissions below 25,000 MTCO₂e, and all commercial and residential fuel combustion of natural gas and propane
- Transportation fuels

⁴ Since the program includes greenhouse gases (e.g. methane) that are more effective at trapping heat than carbon dioxide, all emissions are measured in units relative to the heat trapping potential of carbon dioxide or CO₂e, the “e” standing for “equivalent”.

Without a staggered approach, all sectors identified above would be subject to the cap-and-trade program on January 1, 2012. We are considering bringing all sectors into the program in 2012 and encourage public comment on this alternative approach.

Allowances

Covered entities in a cap-and-trade program must account for GHGs they emit. Permits to emit are called allowances and are issued by the state to program participants. Every year, the cap would decline and, as a result, fewer allowances would be issued. Limiting the number of allowances issued in this fashion ensures emissions continue to decline.

At the end of a compliance period, each covered entity would be required to surrender allowances, and some offsets, equal to its total GHG emissions during that compliance period. Once the allowances are surrendered they are permanently retired by ARB. Failure by a covered entity to surrender sufficient allowances to match its emissions would result in significant penalties.

Once an entity holds an allowance, it can: 1) surrender it to comply with its obligation under the regulation; 2) bank it for future use; 3) trade it to another entity; or 4) ask ARB to retire it.⁵

Buying and selling allowances establishes a price for each ton of GHG emissions which in turn reflects the cost for facilities and entities in the program of reducing emissions per ton. The flexibility provided by trading allows for continued growth by individual sources while guaranteeing that there is no increase in total GHG emissions for capped sectors.

Because allowances can be traded—that is, bought and sold—they have a significant economic value whether they are allocated free of charge to a facility or entity, or initially acquired at auction. An entity would buy an allowance if the market value of the allowance is less than the cost of reducing emissions on-site. Alternatively, if an entity believes that selling an allowance is cost-effective, it may sell the allowance to another entity at the current market price. ARB is considering different approaches for allocation and auction design and is receiving input from a panel of economic, financial, and policy experts (see EAAC description below).

Banking

Banking typically refers to the carry-over of unused allowances or offsets from one compliance period to another. The ability to bank allowances provides an

⁵ For example, non-governmental organizations or private individuals may wish to purchase allowances solely for the purpose of retiring them.

incentive for covered entities to make early reductions since the declining cap could push allowance prices higher over time.

Offsets

Under cap-and-trade, covered entities could buy offset credits in lieu of buying allowances or reducing their emissions on-site. Offsets are tradable credits that represent GHG emissions reductions that are made in areas or sectors not covered by the cap-and-trade program. One offset credit would be equal to one metric ton of GHG emissions.

Offsets must meet rigorous criteria that demonstrate that the emissions reductions are real, permanent, verifiable, enforceable, and quantifiable. To be credited as an offset, the action or project must also be additional to what is required by law or regulation or would otherwise have occurred. Under a California cap-and-trade program, ARB could issue or approve an offset credit that could be used by a covered entity instead of turning in an allowance for the equivalent amount of CO₂e emitted.

The Scoping Plan called for a limited use of offsets. The PDR includes a proposal that a covered entity be allowed to use offsets for up to 4 percent of what it surrenders at the end of a compliance period.

Linkage to Other Greenhouse Gas Emissions Trading and Offset Crediting Systems

Using the approach under consideration, California could link its cap-and-trade program to other trading systems. Linkage would be implemented through agreements with other systems for all details of cap-and-trade program operations. This would include verification of emissions; certification of offsets based on approved protocols; tracking, registration and reporting systems; and related infrastructure that records and tracks emissions, allowances and offsets, along with verification of compliance in a given compliance period.

ADDITIONAL ELEMENTS OF THE PRELIMINARY DRAFT REGULATION

We have addressed a variety of other issues in a question-and-answer format below:

In Addition to Preliminary Draft Regulatory Language, What Is ARB Asking the Public to Consider and Provide Comment On?

In addition to draft regulatory language, the PDR highlights and seeks comment on key issues and approaches that are still under consideration. We have inserted narrative text within the body of the PDR to explain these. While we have specifically highlighted a number of areas for public input, we encourage

comments on all portions of the draft. We will reflect public comment on the PDR, submitted by January 11, 2010, in the Spring 2010 proposed draft regulation.

Does the PDR Address the Allocation of Allowances and the Use of Auction Proceeds?

In 2009, a 17-member Economic and Allocation Advisory Committee (EAAC) was appointed to advise ARB on the implementation of the proposed cap-and-trade program. The EAAC comprises economic, financial, and policy experts with various backgrounds and experiences. It will provide advice on allocation of allowances and use of their value and evaluate the implications of different allowance allocation strategies such as free allocation, auction or a combination of both. The Committee is expected to prepare a report with its findings in January 2010.

The PDR summarizes different allocation options the EAAC is considering. We will address the Committee's recommendations on allocation in the Spring 2010 draft regulation.

How Does the PDR Address Reporting Requirements for Covered Sources?

In 2007, ARB adopted mandatory emission reporting requirements for the largest stationary sources of GHG emissions. The Scoping Plan includes a cap-and-trade program that goes beyond large stationary sources to include transportation fuels and smaller sources of fuel combustion by regulating the providers of these fuels. Therefore, the ARB will revise mandatory reporting regulations to harmonize the rules with applicable cap-and-trade program provisions.

The PDR previews proposed additional types of sources, GHGs, and thresholds that may be included in revisions to mandatory reporting. Staff plans to present to the Board revisions to the mandatory reporting regulation in the same rulemaking package as cap-and-trade for their consideration in October 2010. Work on these revisions is underway and will be available for public review and comment in Spring 2010.

A summary of potential revisions to the California Mandatory Reporting Regulation (MRR) are summarized following the main body of the PDR text.

How Does the PDR Address Stationary Combustion of Biomass Fuels?

Most biomass fuel combustion emissions from stationary sources would not create an obligation to surrender allowances. Therefore, for combustion emissions of stationary sources, only fossil fuel combustion emissions are counted toward the 25,000 metric tons CO₂e/year threshold. Biomass CO₂

emissions from stationary sources would, however, continue to count toward the threshold for mandatory GHG emissions reporting.

Does the PDR Propose to Include Cement in the Cap-and-Trade Program?

The PDR includes cement as a covered entity. Considerations associated with the potential for emissions leakage from this sector are awaiting EAAC recommendations and staff's analysis of the industry's trade exposure. Staff is investigating how best to encourage blending of supplementary cementitious materials and other approaches to reduce emissions associated with in-state cement production. We will provide more detail in the Spring 2010 draft regulation.

How Would the Cap-and-Trade Program Address Co-Pollutants?

We are requesting public comment on whether and how best to incorporate co-pollutant considerations into the cap-and-trade program. Co-pollutants include smog-forming air emissions, such as reactive organic gases and nitrogen oxides, as well as air toxics, such as diesel particulate.

AB 32 contains several provisions for the design of market-based compliance mechanisms such as cap and trade that require ARB to the extent feasible to: design regulations that are equitable, minimize costs, and maximize total benefits to the State; ensure that greenhouse gas reductions measures complement efforts to reduce smog-forming and toxic air emissions; prevent increases in the emissions of smog-forming and toxic air pollutants that result from the cap-and-trade program.

During the past year, the issue of co-pollutant reductions has been discussed in many arenas, including at public meetings of the EAAC as well as ARB public meetings on cap-and-trade design elements, general approaches, and options. Over the course of these meetings, staff received comments about co-pollutant emissions considerations in the design of the program.

Some stakeholders believe that a cap-and-trade program may lead to increases in co-pollutant emissions in selected communities. As part of the economic and environmental assessment of the cap-and-trade regulation, we are assessing the emission reduction opportunities available to sources covered by this regulation. This evaluation will consider the potential for the incentives and flexibility inherent in the cap-and-trade program to result in direct, indirect, and cumulative emission impacts, including localized impacts in communities that are already adversely impacted by air pollution. To the extent that we identify increases in co-pollutant emissions due to the cap-and-trade program, we will also, to the extent feasible, identify the means to prevent these increases.

Some stakeholders have encouraged staff to use the cap-and-trade program as a mechanism to achieve additional co-pollutant emission reductions, particularly in areas that experience disproportionate air pollution impacts. Potential approaches suggested by some stakeholders for addressing co-pollutant emissions in disproportionately impacted communities include restrictions or surcharges on trading in certain geographic areas, and using potential auction proceeds to fund environmental projects in these communities. Other stakeholders have encouraged ARB to avoid attempting to use the cap-and-trade program itself to address co-pollutant related issues, but rather to use other mechanisms to address these concerns.

Just as ARB is considering how the climate change program should incorporate criteria pollutants and air toxics, we are also evaluating how the State Implementation Plan, the Goods Movement Emission Reduction Plan, and the diesel risk reduction plan can help us meet our climate change goals. The integration of these programs will lead to more efficient and streamlined programs for both regulated industries and state government.

In addition, AB 32 calls upon ARB to direct public and private investment toward the most disadvantaged communities for all AB 32 programs. In response, ARB is developing a white paper to discuss the identification of disadvantaged communities. The identification method will be based on ARB-funded research that combines air pollution data with socio-economic factors. We anticipate releasing the paper before the end of the year.

How Will the California Cap-and-Trade Program Work Under a Federal System?

Federal climate change legislation is still being debated in Congress. In the meantime, ARB is moving forward with the development of a cap-and-trade program. Once a federal program is in place, California along with states and provinces in other regional cap-and-trade programs (e.g. WCI, the Regional Greenhouse Gas Initiative, and the Midwestern Regional Greenhouse Gas Reduction Accord) will work to link and/or transition to the national program.

What is the Timeline for the Cap-and-Trade Program?

The cap-and-trade rulemaking timeframe with associated amendments to Regulation for the Mandatory Reporting of Greenhouse Gas Emissions is outlined below.

December 2009-January 2010	Public workshop and public comment period on PDR
January 2010	Economic and Allocation Advisory Committee allowance allocation recommendations to the Board (presented at February Board Hearing).
February 2010	Public workshop on proposed revisions to Mandatory Reporting Regulation
Spring 2010	Proposed draft cap-and-trade regulation and proposed draft amendments to the Mandatory Reporting Regulation (MRR) released Workshops on the proposed draft cap-and-trade regulations, proposed draft MRR amendments, and draft analyses Work begins on development of a compliance instruments tracking system
September 2010	Public release of final draft cap-and-trade regulation and proposed changes to the MRR along with Initial Statement of Reasons; 45 day public comment period begins
October 2010	Board considers cap-and-trade regulation and MRR changes for adoption
Spring 2011	Adopted regulations go to the Office of Administrative Law for review and approval
Summer 2011	Launch of compliance instruments tracking system
Fall 2011	Hold initial auction of allowances
January 1, 2012	Cap-and-trade program launch

What Is in the PDR and How Is It Structured?

The PDR represents an initial draft of what would be Article 5 of the California Code of Regulations under California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms.

Following this structure for the PDR, the following outline represents the proposed table of contents for the applicable subarticles to the rule:

- Subarticle 1. Table of Contents
- Subarticle 2. Purpose and Definitions
- Subarticle 3. Applicability
- Subarticle 4. Compliance Instruments
- Subarticle 5. Registration and Tracking System
- Subarticle 6. California Greenhouse Gas Allowance Budgets
- Subarticle 7. Surrender Requirements for Covered Entities
- Subarticle 8. Distribution of Allowance Value
- Subarticle 9. Auction Design and Mechanisms for Distributing Auction Proceeds
- Subarticle 10. Free Allowance Mechanisms
- Subarticle 11. Trading and Banking
- Subarticle 12. Linkage to External Trading or Offset Crediting Systems
- Subarticle 13. Offset Credits
- Subarticle 14. Enforcement and Penalties
- Subarticle 15. Other Provisions

Synopsis of the PDR

The remainder of this Overview outlines PDR provisions and briefly explains the concepts contained within the body of the PDR document. The “discussion of concept” sections noted here in indented text refer to text boxes included in the PDR to provide more detailed explanation of the draft regulatory language in a particular section or to explore additional concepts.

Subarticle 1 – Table of Contents

Subarticle 2 – Purpose and Definitions

Section 95801, Purpose: The purpose of this regulation is to reduce GHG emissions by applying a declining aggregate cap on emissions. The regulation also creates a flexible compliance system through the use of tradable instruments.

Section 95802, Definitions: Provides definitions of terms and abbreviations used throughout this regulation. This section is still undergoing review for clarity and for consistency with related definitions in other regulations.

Subarticle 3 – Applicability

Section 95810, Covered Gases: Lists the GHGs covered by this regulation.

Section 95820, Covered Entities: Identifies entities whose GHG emissions are covered under this regulation. Covered entities include: operators of large point sources of GHG emissions, electricity deliverers, and fuel deliverers. These covered entities are said to have a ‘surrender obligation’ because they must surrender ‘compliance instruments’ to match the amount of emissions for which they are responsible under this regulation.

Discussion of Concept: Explanation of Points of Regulation by Sector – Provides background on why the proposed covered entities were selected.

Section 95830, Inclusion Thresholds for Covered Entities: Identifies GHG emissions thresholds for covered entities. Covered entities are those that emit at or above a 25,000 metric ton CO₂e threshold each year.

Section 95840, Opt-In Participants: Identifies entities that can opt-in to the cap-and-trade system including traders, brokers, offset providers, verifiers, and those who wish to voluntarily retire compliance instruments.

Subarticle 4 – Compliance Instruments

Section 95850, Compliance Instruments Issued by ARB: Identifies two types of tradable instruments that the ARB may issue—California Greenhouse Gas Emission Allowances and California Offset Credits. These compliance instruments are matched against emissions from covered entities to satisfy a surrender obligation.

Section 95860, Compliance Instruments Issued by Approved External Greenhouse Gas Emissions Trading Systems:

Discussion of Concept: Compliance Instruments Issued by Approved External Program – Identifies that ARB could approve compliance instruments issued by external programs. Also discusses types of compliance instruments that could be considered by ARB to meet a surrender obligation.

Subarticle 5 – Registration and Tracking System

Section 95870, Registration and Tracking System: Identifies and defines registration requirements for covered entities and opt-in participants, and outlines the details of the compliance instrument tracking system.

Subarticle 6 – California Greenhouse Gas Allowance Budgets

Section 95890, Annual Base Allowance Budgets for Calendar Years 2012-2020: Identifies how the declining emissions cap will be set for the program. The cap is divided into annual budgets which specify the number of allowances created in each year from 2012 through 2020.

Note: The budget schedule is preliminary and illustrative only. **It will be revised extensively in future drafts.**

Section 95900, Annual Base Allowance Budgets for Calendar Year 2021 and Subsequent Calendar Years: Provides placeholder language for a methodology to determine a base budget schedule for all post-2020 compliance periods.

Section 95910, Modifications to the Base Budget Schedule: Provides criteria and administrative procedures for modifying the base budget schedule.

Discussion of Concept: Administrative Adjustments to the Base Allowance Budgets – Explores the option of modifications to the base budgets after adoption of the regulation to account for changes in program scope, WCI membership or improved estimates of future expected emission levels from covered entities.

Discussion of Concept: Budget Adjustment for Voluntary Investment in Renewable Sources of Electricity Generation – Examines the option of tightening the cap of the program to account for voluntary investment in renewable sources of electricity generation that indirectly reduces the need for emissions from the covered entities.

Subarticle 7 – Surrender Requirements for Covered Entities

Discussion of Concept: The Compliance Cycle Describes the expected interaction between the timing of allowance distribution, emissions reporting and surrender of compliance instruments.

Section 95920, General Requirements: Explains that all covered entities subject to this regulation will report to ARB through the mandatory reporting process. Contains provisions detailing record retention requirements.

Section 95930, Duration of Compliance Periods: Describes the timing of the three-year compliance periods (2012-2014, 2015-2017, and 2018-2020) for covered entities.

Section 95940, Phase-in of Surrender Obligation for Covered Entities: Describes the timing of obligation for covered entities in the program.

Discussion of Concept: Potential Inclusion of Fuel Deliverers in 2012 – Examines the option of specifying fuel deliverers as covered entities beginning in 2012 rather than 2015. This option differs from the Scoping Plan recommendations but would take into account the comments of those stakeholders who recommended this approach throughout the public participation process on cap-and-trade program design elements.

Section 95950, Emission Categories Used to Calculate Surrender Obligation: Describes how to calculate a covered entity's surrender obligation based on the entity's emissions for a given compliance period. Most fugitive emissions and biomass fuel combustion emissions from stationary sources would not create a surrender obligation.

Discussion of Concept: Calculating Surrender Obligation for Fuel Deliverers – Describes the cap-and-trade program's overall treatment of transportation emissions. Outlines four possible options for how transportation fuel deliverers' surrender obligation is determined: (1) surrender obligation is based on net "carbon content" (combustion emissions for gasoline and diesel, zero for biofuels); (2) surrender obligation for gasoline, diesel, and biofuels is based on direct combustion emissions; (3) surrender obligation is based on net "carbon content" plus some portion of the fuel's lifecycle emissions; and (4) surrender obligation is based on the lifecycle carbon intensity factor (as determined by the Low Carbon Fuel Standard).

Section 95960, Timing for Calculation of Covered Entities' Surrender Obligation: Describes when a covered entity's emissions must be included in the calculation of surrender obligation for a given compliance period. Provides flexibility for a covered entity that is included in the cap-and-trade program for the first time in the third year of a compliance period.

Discussion of Concept: Addressing Bankruptcy of Covered Entities – Describes options to deal with default on surrender obligation due to bankruptcy. One option would be to surrender a portion of an entity's compliance obligation each year; another option would be to shorten the compliance period to one year.

Section 95970, Quantitative Usage Limit on Designated Compliance Instruments: Sets the quantitative usage limit on offsets at approximately 4 percent of an entity's surrender obligation. Ensures that the majority of emission reductions will result from actions by the covered entities rather than from offset projects.

Discussion of Concept: Quantitative Usage Limit on Offsets and other Similar Compliance Instruments - Describes how the quantitative usage limit was set by the Scoping Plan to provide a balance between the cost-containment advantages of offsets and the desire to maintain a strong incentive for emission reductions from covered sources. Provides a link to example calculations showing how the limit could be determined.

Section 95980, Surrender of Compliance Instruments by a Covered Entity: Describes the mechanics of how a covered entity fulfills its surrender obligation

by transferring a sufficient amount of compliance instruments from its Holding Account to its Compliance Account. Defines an initial surrender deadline followed by data review, reconciliation and final surrender.

Subarticle 8 – Distribution of Allowance Value

Discussion of Concept: Informational Placeholder on Allowance Allocation – The cap-and-trade program creates valuable allowances. A determination of how to distribute the value associated with the creation of allowances is challenging. This draft summarizes the potential uses of this ‘allowance value’ and the potential mechanisms to distribute this value as reflected in the Economic and Allocation Advisory Committee’s deliberations.

Subarticle 9 – Auction Design and Mechanisms for Distributing Auction Proceeds

Section 96030, Format for Auction of California GHG Allowances: This section is a placeholder until ARB staff receives the recommendations of the EAAC on auction design. It contains a link to a presentation on auction design made by staff at a stakeholder meeting on March 23, 2009.

Section 96040, Auction Operation and Registration: Describes the general procedures and requirements for an entity to participate in an auction.

Discussion of Concept: Cost Containment – Describes options for mitigating high and low prices in the market for compliance instruments including: relaxation of the quantitative limit on offsets; expansion of acceptable types of offset credits; use of allowances from the next compliance period; and use of an allowance reserve.

Subarticle 10 – Free Allocation Mechanisms

Placeholder: Provides a placeholder for ways in which allowances might be distributed that do not involve auctioning. This issue will be addressed in the recommendations provided by the EAAC in January, 2010, and staff will incorporate language on this issue in the Spring 2010 draft of the regulation.

Subarticle 11 – Trading and Banking

Section 96080, Trading: Explains how staff will approach acquiring sufficient information on transactions involving allowances and offsets to support market monitoring. Staff believes the information available to regulators from exchange trading of secondary and derivative products is likely to be sufficient for monitoring trades on those venues. Staff is concerned about getting similar levels of information on bilateral trades and non-exchange traded derivatives. Staff’s objective is to ensure that transactions fall clearly within California or Federal regulation.

Discussion of Concept: Use of Trading Facilities – Considers whether ARB should promote trades of allowances through trading facilities selected by Executive Officer.

Discussion of Concept: Use of Clearing Facilities – Discusses option that trades of offsets be conducted through clearing facilities to maintain contract documentation and reduce counterparty risk until the issue of credit reversal can be addressed through standardized contracts.

Section 96090, Banking: Describes rules and restrictions for banking of compliance instruments in Holding Accounts.

Subarticle 12 – Linkage to External Trading or Offset Crediting Systems

Section 96150, General Requirements: Describes the basic criteria for approving linkage to an external greenhouse gas emissions trading system (GHG ETS) or a GHG offset crediting system.

Section 96160, Requirements for Approval of External Greenhouse Gas Emissions Trading Systems: Describes the specific criteria for approving linkage to an external GHG ETS.

Section 96170, Requirements for Approval of GHG Offset Crediting Systems: Describes the specific criteria for approving linkage to a GHG offset crediting system.

Section 96180, Types of Linkage: Describes how unilateral linkages and bilateral linkages would be established.

Section 96190, Agreement: Describes the requirements for a Memorandum of Understanding (MOU) between California and an external GHG ETS or a GHG offset crediting system for establishing linkage.

Section 96200, Eligible Allowance Vintages: Describes the process for approving eligible allowance vintages from a linked external GHG ETS.

Section 96210, Suspension of Linkage:

Discussion of Concept: Suspension of Linkage – Identifies that ARB could suspend a linkage to an approved external program if that program no longer meets the criteria described in this subarticle.

Subarticle 13 – Offset Credits

Discussion of Concept: Creation of Offset Credits – Describes several options for ARB's role in the issuance and acceptance of offset credits. These include: ARB as a credit issuing body; ARB as the body that approves offset credits issued by external programs; and ARB as the body that both approves and issues offset

credits. The PDR includes draft regulatory language that would allow ARB to become both a credit issuing body and an approving body for offset credits that are issued by external programs.

Section 96220, General Requirements for Offset Credits: States that GHG emission reductions or avoidances, or GHG sequestration that result from an offset project must be real, additional, quantifiable, permanent, verifiable, and enforceable.

Section 96230, Approval of Offset Quantification Methodologies: Describes how an offset quantification methodology may be approved.

Discussion of Concept: Requirements and Approval of Offset Quantification Methodologies – Discusses ARB staff's recommended approach for the adoption of offset quantification methodologies by the Board.

Section 96240, Requirements for Approval of Offset Quantification Methodologies: Describes the requirements and criteria that an offset quantification methodology must meet in order to be approved by the Board. These include criteria for quantification, additionality, activity baselines, accounting for activity-shifting and market-shifting leakage and offset uncertainty, permanence, crediting periods, monitoring and reporting and project-type-specific verification requirements.

Discussion of Concept: Offset Project Types – Discusses the criteria that will be considered when ARB evaluates which offset project types should result in the adoption of an offset quantification methodology.

Discussion of Concept: Ozone Depleting Substances – Discusses whether to allow offset project types that reduce GHGs that are not specifically called out in AB 32 such as the destruction of ODS to be allowed to generate offset credits.

Discussion of Concept: Offset Project Eligibility Date for Additionality – Discusses the eligibility date for determining the additionality of offset projects for which ARB could issue offset credits.

Section 96250, Requirements for Offset Project Operators: Describes requirements for Offset Project Owners.

Section 96260, Registration of Offset Projects for ARB Issued Offset Credits: Describes the requirements that an offset project must meet in order to be registered by ARB. These include the use of an approved offset quantification methodology, additionality and offset project location.

Discussion of Concept: Current Board Approved Offset Quantification Methodologies – Discusses the offset quantification methodologies already approved by the Board.

Discussion of Concept: Where Should California Issue Offset Credits?– Describes several options for where projects may be located for which ARB could issue offset credits, ranging from limiting projects to only those in California to no geographic limits. Possible geographic limits on projects for which ARB could issue credits would not necessarily mean limiting the geographic location of offset credits issued by an external program that ARB would approve under Sections 96180 through 96195.

Section 96270, Approval of a Renewed Crediting Period: Describes the requirements and process for determination of whether an offset project may be approved for an additional crediting period.

Section 96280, Renewal of Registration for Renewed Crediting Period: Describes the process for registration of an offset project that has been approved for a renewed crediting period.

Section 96290, Monitoring, Reporting and Record Retention Requirements for Offset Projects: Describes both the general and project-type-specific requirements for the monitoring, reporting and record retention associated with offset projects.

Section 96300, Verification of GHG Reductions, Avoidances or Sequestrations from Offset Projects: Describes the verification requirements for reductions resulting from offset projects. Also describes the timing for submission of verification statements.

Discussion of Concept: General Offset Verification Requirements – Identifies that the process for the verification of GHG reductions from offset projects would be similar to that laid out in the mandatory reporting regulation. The mandatory reporting requirements for verification may need to be amended in order to support the offsets system.

Section 96310, Verifier and Verification Body Accreditation:

Discussion of Concept: Accreditation of Offset Verifiers – Discusses accreditation for verification bodies that would verify GHG reductions from offset projects.

Section 96320, Conflict of Interest for Offset Projects:

Discussion of Concept: Conflict of Interest Requirements for Offset Projects – Identifies that the requirements for conflict of interest in regards to offset projects would be similar to those laid out in the mandatory reporting regulation. The mandatory reporting requirements for conflict of interest may need to be amended in order to support the offsets system.

Section 96330, General Requirements for Issuance of Offset Credits by ARB: Describes the general requirements for the issuance of ARB offset credits.

Section 96340, Issuance of Offset Credits in an Initial Crediting Period: Describes the rules that apply for the annual issuance of offset credits in an offset project's initial crediting period.

Section 96350, Issuance of Offset Credits in a Renewed Crediting Period: Describes the rules that apply for the annual issuance of offset credits in an offset project's renewed crediting period.

Section 96360, Issuance of Offset Credits by ARB: Describes the process for determining how offset credits will be issued for GHG emission reductions, avoidances or sequestration resulting from a registered offset project. Also describes the process for notifying the Offset Project Owner of this determination.

Section 96370, Registration of Offset Credits Issued by ARB: Describes how offset credits will be registered and made available to the Offset Project Owner.

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Discussion of Concept: Reversals of Offset Credits – Discusses the enforcement and assessment of penalties that may be imposed if an offset credit is reversed or found to be invalid after issuance or acceptance by ARB.

Section 96400, Offset Credits Issued by External Programs: Describes the general requirements that an offset credit issued by an external program must meet in order to be accepted by ARB.

Discussion of Concept: International Offset Credits and Sector-Based Crediting – Discusses California's desire to work at the international level to reduce GHG emissions and support the adoption of low-carbon technologies and sustainable development in the developing world. Also states California's intent to move beyond international project-based crediting towards the development of international sector-based crediting mechanisms to achieve emissions reductions in the developing world. Also discusses California's participation in international forestry efforts to reduce emissions for deforestation.

Section 96410, Requirements for Offset Credits Issued by an External Program for Projects Located in the United States or Canada: Describes the requirements and limitations for the approval of offset credits issued by an external program to projects located in either the U.S. or Canada. Also describes requirements for

MOUs and coordination needed for the retirement of offset credits in external systems.

Section 96420, Requirements for Offset Credits Issued by an External Program for Projects Located in Developing Countries: Describes the requirements and limitations for the approval of offset credits issued by an external program to projects located in developing countries. Also describes requirements for MOUs and coordination needed for the retirement of offset credits in external systems.

Section 96430, Requirements for Sector-Based Crediting: Describes the requirements for MOUs and the determination for approval of sectors and crediting baselines for credits issued under a sector-based crediting mechanism.

Subarticle 14 – Enforcement and Penalties

Discussion of Concept: Enforcement and Penalty Provisions - ARB expects to add provisions to this subarticle to specify particular enforcement provisions for separate requirements in the regulation. These provisions would include methods for calculating the number of violations and consequences for non-compliance. ARB is trying to find a combination of penalty levels and number of violations that would deter non-compliance by removing any economic benefits of non-compliance.

Section 96500 Jurisdiction: Explains what activities will constitute consent on the part of a market participant to be subject to California's jurisdiction.

Section 96501 Authority to Suspend, Revoke or Modify: Describes ARB's authority to place restrictions on market participants with an account subject to the cap-and-trade program.

Section 96502 Injunctions: Ties violations of this rule to pertinent enforcement provisions in the Health and Safety Code.

Section 96503 Penalties: Ties the assessment of penalties under this regulation to pertinent enforcement provisions in the Health and Safety Code.

Section 96504 Violations: Describes what constitutes a violation under this article.

Subarticle 15 – Other Provisions

Section 96540 Severability, Effect of Judicial Order: Addresses remedies for legislative or judicial decisions that negate portions of the rule (e.g., federal law that preempts state regulation, changes to state law, or court action).

Section 96550 Reserved Provisions: Includes a placeholder.

Subchapter 10, Article 2, Sections 95100-95199 – Amendments to Regulation for the Mandatory Reporting of Greenhouse Gas Emissions

The ARB GHG Mandatory Reporting Regulation (MRR) will be updated in conjunction with the cap-and-trade rulemaking. Revisions will focus on specific provisions that are needed for the reporting regulations to support the cap-and-trade program. Work on these revisions is now underway and will be available for public review and comment in Spring 2010. Staff expects to present MRR revisions and the cap-and-trade regulation to the Board in one rulemaking package.

The PDR contains the following information pertinent to the MRR amendments:

- Attachment 1: Anticipated Changes to Reporting: A bulleted list of areas that are expected to change
- Attachment 2: Draft Table of Contents for the Revised Mandatory Reporting Regulation
- Attachment 3: Preliminary Draft Amendments to Section 95107, Enforcement
- Attachment 4: A tentative calendar for the public participation process
- Attachment 5: Evaluation of the Relationships between Emissions Quantification, Scope and Points of Regulation for the AB 32 cap-and-trade program: A description of considerations that will be examined for inclusion of an emissions source within the scope of the cap-and-trade program.
- Attachment 6: Detailed Scope Table: Depicts preliminary staff thinking in tabular format on which emissions generate a surrender obligation and proposed additional types of sources, GHGs, and reporting thresholds.

*Subchapter 10 Climate Change, Article 5, Sections 95800 to 96550, Title 17,
California Code of Regulations, to read as follows:*

Article 5: California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms

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Subarticle 2. Purpose and Definitions

§ 95801 Purpose

- (a) The purpose of this article is to reduce emissions of greenhouse gases from entities identified in this article through the establishment, administration and enforcement of the California Greenhouse Gas Cap-and-Trade Program by applying an aggregate greenhouse gas allowance cap on covered entities and providing a trading mechanism for compliance instruments.

§ 95802 Definitions

**UU*Note: Terms denoted with an asterisk in this section and also contained in the Regulation for the Mandatory Reporting Regulation of Greenhouse Gas Emissions (MRR) will be reconciled for consistency in later versions of this preliminary regulation.

- (a) *TTDefinitions*. For the purposes of this article, the following definitions shall apply:
- (1) “Accuracy” means the closeness of the agreement between the result of the measurement and the true value of the particular quantity (or a reference value determined empirically using internationally accepted and traceable calibration materials and standard methods), taking into account both random and systematic factors*.
 - (2) “Activity baseline” means, in the context of an offset project or activity, the scenario that reflects a conservative estimate of business-as-usual performance or activities for the relevant type of activity or practice such that the baseline provides an adequate margin of safety to reasonably calculate the amount of GHG reductions in reference to such baseline.
 - (3) “Activity-shifting leakage” means GHG emissions that result from the displacement of activities from inside the offset project’s boundary to

locations outside the offset project's boundary as a result of the offset project activity.

- (4) "Additional" means, in the context of offset credits, emission reductions must be in addition to any greenhouse gas reduction, avoidance or sequestration otherwise required by law or regulation, or any greenhouse gas reduction, avoidance or sequestration that would otherwise occur.
- (5) "Allowance" means a limited tradable authorization to emit up to one metric ton of carbon dioxide equivalent.
- (6) "Allowance budget" or "Annual allowance budget" means the number of allowances associated with one year in Subarticle 6.
- (7) "Allowance cap" means the total number of California Greenhouse Gas Allowances that the Executive Officer issues over a given period of time.
- (8) "Approved offset quantification methodology" means an offset quantification methodology approved by the Board.
- (9) "Auction" means the process of selling California GHG allowances by offering them up for bid, taking bids, and then distributing the allowances to winning bidders.
- (10) "Auction reserve price" means a price for allowances below which bids at auction would not be accepted.
- (11) "Banking" means the holding of compliance instruments from one compliance period for the purpose of sale or surrender in a future compliance period.
- (12) "Base allowance budget" means an allowance budget prior to any adjustments.
- (13) "Bilateral linkage" means the approval of compliance instruments from an external greenhouse gas emission trading system or a greenhouse gas offset crediting system to meet surrender obligations under this article, and in some cases the reciprocal approval of compliance

instruments issued by California to meet surrender obligations in an external greenhouse gas emissions trading system.

- (14) "Biomass" – [Placeholder].

ARB is considering the use of the definition contained in the "Renewable Energy Program: Overall Program Guidebook," 2nd Ed., California Energy Commission, Report No. CEC-300-2007-003-ED2-CMF, January 2008. ARB is also considering biomass to mean non-fossilized and biodegradable organic material originating from plants, animals and micro-organisms, including products, byproducts, residues and waste from agriculture, forestry and related industries as well as the non-fossilized and biodegradable organic fractions of industrial and municipal wastes, including gases and liquids recovered from the decomposition of non-fossilized and biodegradable organic material. In the context of this article it may be necessary to modify this definition.

- (15) "Biomass fuels" or "biomass-derived fuels" means fuels whose entire heat generating capacity is derived entirely from biomass*.
- (16) "Borrowing" means using allowances from a future compliance period to meet a current surrender obligation.
- (17) "Burden of proof" means demonstration of proof by a preponderance of evidence.
- (18) "Business-as-usual" means the normal course of business or activities for an entity or a project before the imposition of greenhouse gas emission reduction requirements or incentives.
- (19) "Calendar year" means the time period from January 1 through December 31.
- (20) "California Cap-and-Trade Market Tracking System" means an information system to support the California Air Resources Board's implementation of this article, including recording of transactions, allowance and offset credit issuance and retirements, and compliance evaluation.
- (21) "California Greenhouse Gas Emissions Allowance" or "CA GHG Allowance" or "California Allowance" means an allowance issued by ARB and equal to up to one metric ton of CORR₂ equivalent.

- (22) “California reformulated gasoline” or “Gasoline” or “CaRFG” means gasoline sold or intended for sale as a motor vehicle fuel in California that is subject to Title 13, California Code of Regulations, Sections 2250-2273.5.
- (23) “California electricity transmission and distribution system” means the combination of the transmission and distribution systems located within California that allows electric power to move from one point to another over multiple paths and connects electric generating facilities to end users of electricity.
- (24) “Cap” see “Allowance cap”.
- (25) “Carbon dioxide” or “CO₂” means the most common of the six primary greenhouse gases, consisting on a molecular level of a single carbon atom and two oxygen atoms.
- (26) “Carbon dioxide equivalent” or “CO₂ equivalent” or “CO₂e” means a measure for comparing carbon dioxide with other GHGs, based on the quantity of those gases multiplied by the appropriate global warming potential (GWP) factor and commonly expressed as metric tons of carbon dioxide equivalents (MTCO₂e).
- (27) “Carbon intensity” means the amount of lifecycle greenhouse gas emissions, per unit of energy of fuel delivered, expressed in grams of carbon dioxide equivalent per megajoule (gCO₂e/MJ).
- (28) “Cement” means a building material that is produced by heating mixtures of limestone and other minerals or additives at high temperatures in a rotary kiln to form clinker, followed by cooling and grinding with blended additives. Finished cement is a powder used with water, sand and gravel to make concrete and mortar.
- (29) “Clearing price” means the price of an allowance determined at an auction.
- (30) “Clearing organization,” means an entity through which futures and other derivative transactions are cleared and settled. It is also charged

with assuring the proper conduct of each contract's delivery procedures and the adequate financing of trading.

- (31) "Coal" means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society for Testing and Materials Designation ASTM D388–05 "Standard Classification of Coals by Rank".
- (32) "Common practice" means activities and management practices that are widely used in a region whether or not it is required by law or regulation.
- (33) "Compliance Account" means an account created by ARB for a covered entity with a surrender obligation, or for an entity intending to voluntarily retire a compliance instrument.
- (34) "Compliance instrument" means an allowance or offset credit. Each compliance instrument can be used to fulfill a surrender obligation equivalent to up to one metric ton of CO₂e.
- (35) "Compliance period" means the three-year period for which the surrender obligation is calculated for covered entities.
- (36) "Conduct agreement" means an agreement that must be signed by all registrants, agreeing to the disclosure of bidding information and other conduct rules.
- (37) "Conflict of interest" means a situation in which, because of financial or other activities or relationships with other persons or organizations, a person or body is unable or potentially unable to render an impartial verification opinion of a potential client's greenhouse gas emissions, or the person or body's objectivity in performing verification services is or might be otherwise compromised*.
- (38) "Conservative", in the context of offset credits, means utilizing quantification parameters, assumptions, and measurement techniques that minimize the risk of overstating GHG reductions, avoidances or sequestration credited for a given offset project.

- (39) “Counterparty” means the opposite party in a bilateral agreement, contract, or transaction.
- (40) “Covered entity” means an entity that has a surrender obligation.
- (41) “Crediting baseline” means the absolute GHG emissions level, GHG emissions intensity level calculated as GHG emissions per unit of production, or technology standard that must be met for a sector to generate sector-based credits.
- (42) “Crediting period” means the pre-determined period for an offset project or activity for which GHG reductions, avoidances or sequestration from the activity baseline are verified by an accredited verifier or verification body for purposes of the issuance of offset credits.
- (43) “Data year” means the calendar year in which emissions occurred.
- (44) “Developing country” means a country eligible to receive official development assistance according to the income guidelines of the Development Assistance Committee of the Organization for Economic Cooperation and Development.
- (45) “Diesel fuel” means a fuel composed of distillates obtained in petroleum refining operations.
- (46) “Direct emissions” means greenhouse gas emissions from sources that are under the operational control of the operator.
- (47) “Direct emission reduction” means a greenhouse gas emission reduction action made by a greenhouse gas emission source at the source.
- (48) “Electricity deliverer” means either an electricity generating facility or an electricity importer that delivers power to a point on the California electricity transmission and distribution system.
- (49) “Electricity generating facility” means a facility that generates electricity and includes one or more electricity generating units at the same location.

- (50) “Electricity importer” means an owner of electricity generated outside of California as it is delivered to the first point in California.
- (51) “Emissions” means greenhouse gases released into the atmosphere from a source*.
- (52) “Emissions data report” or “greenhouse gas emissions data report” or “report” means the report prepared by a covered entity each year and submitted by electronic means to ARB that provides the information required by the MRR*.
- (53) “Emissions leakage” means a reduction in emissions of greenhouse gases within the state that is offset by an increase in emissions of greenhouse gases outside the state.
- (54) “Emissions reductions data report” means the report prepared by an Offset Project Operator and submitted to ARB that provides the information that will be required by the MRR.
- (55) “End user” means, in the context of natural gas consumption, either the point to which natural gas is delivered for consumption or a publicly-owned natural gas utility that further distributes natural gas for consumption.
- (56) “Enforceable” means, in the context of offset credits, the ability to hold a particular party liable to ensure that GHG reductions, avoidances or sequestration are real, additional, verifiable, and permanent, and to take appropriate action if any of the criteria in this article are not met.
- (57) “Entity” means a person, firm, association, organization, partnership, business trust, corporation, limited liability company, company, or government agency.
- (58) “Executive Officer” means the Executive Officer of the California Air Resources Board, or his or her delegate.
- (59) “External greenhouse gas emissions trading system” or “External GHG ETS” means a greenhouse gas emissions trading system other than

the *California Cap on Greenhouse Gas Emissions and Market-Based Compliance Reduction* program.

- (60) “External program” means either an external greenhouse gas emissions trading system or a greenhouse gas offset crediting system.
- (61) “Facility” means a property, building, plant, structure, installation, equipment or grouping of stationary equipment located on one or more contiguous properties, in actual physical contact or separated solely by a public roadway or other public right-of-way, and under common operational control that emits or may emit GHG(s).
- (62) “Fuel” means solid, liquid or gaseous combustible material.
- (63) “Fuel Deliverer” means a transportation fuel deliverer, natural gas deliverer, or deliverer of natural gas liquids as specified in Subarticle 3.
- (64) “Global warming potential” or “GWP factor” means the radiative forcing impact of one mass-based unit of a given greenhouse gas relative to an equivalent unit of carbon dioxide over a given period of time.
- (65) “Greenhouse gas” or “GHG”, “greenhouse gases” or “GHGs” includes carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbon (HFC), nitrogen trifluoride (NF₃) and perfluorocarbon (PFCs).
- (66) “Greenhouse gas avoidance” or “GHG avoidance” means protection of carbon stocks in order to prevent the release of greenhouse gas emissions.
- (67) “Greenhouse gas emissions trading program” or “GHG ETS” means an administrative approach used to control greenhouse gas emissions by providing economic incentives for achieving greenhouse gas emission reductions.
- (68) “Greenhouse gas offset crediting system” or GHG offset crediting system” means an administrative body that issues offset credits corresponding to the volume of verified emission reductions achieved by an offset project.

- (69) “Greenhouse gas emission reduction” or “GHG emission reduction” or “greenhouse gas reduction” or “GHG reduction” means, in the context of offset credits, the GHG reductions achieved by an offset project and verified by an accredited independent third-party verifier or verification body as meeting standards consistent with those contained in this article.
- (70) “Greenhouse gas sequestration” or “GHG sequestration” means, in the context of offset credits, the process through which agricultural and forestry practices remove carbon dioxide from the atmosphere. In general terms, GHG sequestration also means the fixation of carbon in a carbon sink through biological or physical processes.
- (71) “Holding Account” means an account established within the California Cap-and-Trade Market Tracking System for the purpose of holding compliance instruments.
- (72) “Hydrocarbon” means a chemical compound containing predominantly carbon and hydrogen.
- (73) “Hydrofluorocarbon” or “HFC” means a class of compounds gases consisting of only hydrogen, fluorine, and carbon.
- (74) “Hydrogen” means the lightest of all gases, occurring chiefly in combination with oxygen in water; exists also in acids, bases, alcohols, petroleum, and other hydrocarbons.
- (75) “Hydrogen plant” or “hydrogen production facility” means a facility that produces hydrogen with steam hydrocarbon reforming, partial oxidation of hydrocarbons, or other processes.
- (76) “Import” means to bring a product from outside California into California.
- (77) “Importer” means the majority owner of a product when it first enters California.
- (78) “Indirect emission” means emissions of GHGs arising along the supply or value chain from a source distinct from the facility in question*.

- (79) “Initial crediting period” means the crediting period that begins with the date that the first verified emission reductions took place according to the first verification statement that is received by ARB.
- (80) “Issue” or “issuance” means, in the context of offset credits, the creation of offset credits equivalent to the number of GHG reductions, avoidances or sequestration which have been verified for an offset project. In the context of allowances, issue means the placement of an allowance in an entity’s holding account.
- (81) “Least Developed Country” means the group of countries defined by the United Nations General Assembly in its resolutions (59/209, 59/210 and 60/33) in 2007.
- (82) “Lifecycle greenhouse gas emissions” or “lifecycle GHG emissions” means the aggregate quantity of GHG emissions (including direct emissions and significant indirect emissions such as significant emissions from land use changes), related to the full product lifecycle, including all stages of fuel and feedstock production and distribution, from feedstock generation or extraction through the distribution and delivery and use of the finished fuel to the ultimate consumer, where the mass values for all greenhouse gases are adjusted to account for their relative global warming potential.
- (83) “Linkage” means the process by which compliance instruments issued by external programs are approved to meet surrender obligations under this article.
- (84) “Margin of safety”. To be defined at a later date.
- (85) “Market index” means any published index of quantities or prices based on results of market transactions.
- (86) “Material misstatement” means one or more inaccuracies identified in the course of verification that result in the total reported emissions, or reported purchases, sales, imports or exports of electricity, being

outside the 95 percent accuracy required to receive a positive verification opinion*.

- (87) “Megawatt hour” or “MWh” means the electrical energy unit of measure equal to one million watts of power supplied to, or taken from, an electric circuit steadily for one hour.
- (88) “Memorandum of Understanding” or “MOU” means a signed agreement between ARB and each collaborative partner. An MOU is only intended to provide for cooperation between the parties and does not create any legally binding rights or obligations.
- (89) “Methane” or “CH₄” means a GHG consisting on the molecular level of a single carbon atom and four hydrogen atoms.
- (90) “Metric tonne” or “metric ton” or “MT” or “tonne” means a common international measurement for the quantity of GHG emissions, equivalent to about 2204.6 pounds or 1.1 short tons.
- (91) “Monitoring” means, in the context of offset projects, the collection and archiving of all relevant data necessary for determining the baseline and the volume of GHG reductions, avoidances or sequestration that are attributable to the offset project after accounting for offset uncertainty and activity-shifting and market-shifting leakage.
- (92) “Natural gas” means a naturally occurring mixture of gaseous hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions.
- (93) “Natural gas liquid” means ethane, butane, isobutane, natural gasoline, and propane which is ready for commercial sale or use.
- (94) “Nitrogen trifluoride” or “NF₃” means a GHG consisting at the molecular level of one nitrogen and three fluorine atoms; a corrosive gas.
- (95) “Nitrous oxide” or “N₂O” means a GHG consisting at the molecular level of two nitrogen atoms and a single oxygen atom.

- (96) “Offset accuracy” means that quantification methodologies and measurement techniques are set at standards for acceptable statistical precision and based on the best available science.
- (97) “Offset credit” means a tradable compliance instrument issued or approved by ARB and represents a reduction, avoidance or sequestration of one metric ton of CO₂e. The GHG reduction, avoidance or sequestration must be real, additional, quantifiable permanent, verifiable and enforceable.
- (98) “Offset project” means all equipment, materials, items, or actions directly related to the reduction, avoidance or sequestration of greenhouse gases. Equipment, materials, items, or actions unrelated to an offset project reduction, avoidance or sequestration of greenhouse gases, but occurring at a location where an offset project occurs, are not considered part of an offset project.
- (99) “Offset project commencement” means, for an offset project involving physical construction, other work at an offset project site, or installation of equipment or materials, the date of the beginning of such activity. For an offset project that involves the implementation of a management activity, “offset project commencement” means the date on which such activity is first implemented or the applicable offset quantification methodology is first utilized.
- (100) “Offset Project Operator” means the person(s) or entity(s) with operational control of the offset project.
- (101) “Offset project registration” means the process for formal acceptance by ARB of an offset project that may be issued offset credits under this article.
- (102) “Offset uncertainty” means a factor associated with the result of measurement or quantification of GHG reductions, avoidances or sequestration that characterizes the dispersion of the values that could be reasonably attributed to the measured quantity.

- (103) “Operational control” for a facility subject to this article means the authority to introduce and implement operating, environmental, health and safety policies. In any circumstance where this authority is shared among multiple entities, the entity holding the permit to operate from the local air pollution control district or air quality management district is considered to have operational control for purposes of this article*.
- (104) "Operator" means the entity having operational control of a facility*.
- (105) “Opt-in participant” means an entity that does not have a surrender obligation under this article but wishes to participate in the market and be willing to be subject to the requirements set forth in this article.
- (106) “Perfluorocarbons” or “PFCs” means a class of greenhouse gases consisting on the molecular level of hydrogen and fluorine.
- (107) “Permanent” means, in the context of offset credits, for non-sequestration projects GHG reductions that are not reversible. For GHG sequestration projects where GHG avoidances or sequestration may be reversible, permanent means the atmospheric effect of their estimated reductions must endure for a period that is comparable to the atmosphere effect achieved by non-sequestration projects. The duration for this period is to be based upon current scientific findings that are widely accepted and followed. The current international standard of 100 years has been established by the United Nations Framework Convention on Climate Change.
- (108) “Petroleum” means crude oil removed from the earth and the oil derived from tar sands, shale or coal.
- (109) “Petroleum refining facility” or “refinery” means any facility engaged in producing gasoline, aromatics, kerosene, distillate fuel oils, residual fuel oils, lubricants, asphalt, or other products through distillation of petroleum or through re-distillation, cracking, rearrangement or reforming of unfinished petroleum derivatives.

- (110) “Point of delivery” means a point on an electric system where a power supplier delivers electricity to the receiver of that electricity. This point can be an interconnection with another system or a substation where the transmission provider’s transmission and distribution systems are connected to another system.
- (111) “Positive verification opinion” means a verification opinion rendered by a verification body stating that the verification body can say with reasonable assurance that the submitted emissions data report is free of material misstatement and includes a qualifying statement that the emissions data report conforms to the requirements of this article*.
- (112) “Power” means electricity, except where the context makes clear that another meaning is intended.
- (113) “Proceeds” means monies generated as a result of an auction.
- (114) “Process” means the intentional or unintentional reactions between substances or their transformation, including, but not limited to, the chemical or electrolytic reduction of metal ores, the thermal decomposition of substances, and the formation of substances for use as product or feedstock.
- (115) “Process emissions” means a greenhouse emission occurring due to a chemical process other than combustion.
- (116) “Producer” means any person who owns, leases, operates, controls or supervises a California production facility.
- (117) “Project boundary” means, in the context of offset credits, all GHG emissions by sources of greenhouse gases under the control of the Offset Project Operator that are significant and reasonably attributable to the offset project. The boundary is limited to the physical project activity and not external sources of GHG reductions, avoidances or sequestration.

- (118) “Propane” means a normally straight chain hydrocarbon that boils at - 43.67 degrees Fahrenheit and is represented by the chemical formula C_3H_8 .
- (119) “Property right” means any type of right to specific property whether it is personal or real property, tangible or intangible.
- (120) “Purchase limit” means the maximum percentage of allowances that may be purchased by affiliated registrants at an allowance auction.
- (121) “Regulation for the Mandatory Reporting of Greenhouse Gas Emissions” or “MRR” means the California Air Resources Board’s regulation requiring the reporting of and verification of greenhouse gas emissions from specified greenhouse gas emissions sources.
(Subchapter 10, Article 2, Sections 95100 to 95133, Title 17, California Code of Regulations)
- (122) “Quantifiable” means, in the context of offset credits, the ability to accurately calculate GHG reductions or avoidances, or sequestration from a set activity baseline while accounting for offset uncertainty and activity-shifting and market-shifting leakage risks.
- (123) “Quantification methodology” means the procedure and/or document used to conduct the assessment of GHG reductions, avoidances, or sequestration achieved by an offset project against a credible activity baseline. Quantification methodologies must include any relevant data collection and monitoring procedures and must adjust for offset uncertainty and activity-shifting and market-shifting leakage risks associated with an offset project.
- (124) “Quantitative usage limit” means a limit on the percentage of an entity’s surrender obligation that may be met by surrendering offsets or other compliance instruments designated to be subject to the limit under this article.
- (125) “Real” means, in the context of offset credits, that GHG reductions or avoidances, or GHG sequestration represents one metric ton CO_2e

that results from an offset project. The offset credit must be quantified using accurate and conservative quantification methodologies that account for all relevant greenhouse gas sources and sinks and activity-shifting and market-shifting leakage risks. Offset projects must result in direct emissions reductions or removals that take place at sources controlled by the Offset Project Operator.

- (126) “Reasonable assurance” means a high degree of confidence that submitted data and statements are valid*.
- (127) “Renewable energy” means energy from sources that constantly renew themselves or that are regarded as practically inexhaustible. Renewable energy includes, but is not limited to, energy derived from solar, wind, geothermal, hydroelectric, wood, biomass, tidal power, sea currents, and ocean thermal gradients.
- (128) “Renewable Energy Credit” or “Renewable Energy Certificate” means a certificate of proof, issued through the accounting system established by the Energy Commission, that one MWh of electricity was generated and delivered by a renewable energy source.
- (129) “Renewed crediting period” means, for an offset project that has been renewed, the crediting period that begins at the conclusion of the initial crediting period.
- (130) “Reserve price” see “Auction reserve price”.
- (131) “Retire” or “retired” or “retirement” means the action taken by the Executive Officer to invalidate a compliance instrument such that the allowance or offset credit may never be sold or otherwise used again.
- (132) “Sector-based credit” means a credit issued under a sector-based crediting system once the crediting baseline for a sector has been reached.
- (133) “Sector-based crediting system” means an emission reduction crediting mechanism based on a target established for a particular sector in a specified region. The crediting baseline is set at the sector level below

the business-as-usual level. Sector-based credits are issued based on the overall performance of the whole sector. No credits are issued until the crediting baseline is reached.

- (134) “Serial number” means a unique number assigned to each compliance instrument for identification within the California Cap-and-Trade Market Tracking System.
- (135) “Source” means greenhouse gas source as defined in this section.
- (136) “Standardized method” means that general criteria and emission factors are used to determine activity baselines, GHG reductions, avoidances or sequestration, monitoring and verification procedures, offset uncertainty and activity-shifting and market-shifting leakage associated with offset projects.
- (137) “Standardized methodology” means an offset quantification methodology that consists of standardized methods.
- (138) “Stationary” means neither portable nor self propelled, and operated at a single facility.
- (139) “Sulfur hexafluoride” or “SF₆” means a GHG consisting on the molecular level of a single sulfur atom and six fluorine atoms.
- (140) “Supplemental project specific” means attributes and processes that are relevant for a certain type of project or activity.
- (141) “Surrender obligation” means the quantity of verified reported emissions for which a covered entity must submit compliance instruments to ARB.
- (142) “Sustainable development value” means a focus on the importance of activities that can achieve economic and social development in ways that do not exhaust a country’s natural resources and meets the needs of the present without compromising the ability of future generations to meet their own needs.
- (143) “Uncertainty” means the degree to which data or a data system is deemed to be indefinite or unreliable*.

- (144) “Unilateral linkage” means the approval of compliance instruments from an external GHG emissions trading system or a GHG offset crediting system to meet surrender obligations under this article.
- (145) “Verifiable” means, in the context of an offset credit, that a GHG reduction, avoidance or sequestration, or assertion thereof, is well documented and transparent such that it lends itself to an objective review by an accredited verification body.
- (146) “Verification” means the process used to ensure that an operator’s emissions data report or emission reductions data report is free of material misstatement and complies with ARB’s procedures and methods for calculating and reporting GHG emissions*.
- (147) “Verification body” means a firm or Air Quality Management District/Air Pollution Control District, accredited by ARB that is able to render a verification opinion and provide verification services for covered entities subject to this article*.
- (148) “Verification opinion” means the final opinion rendered by a verification body attesting whether a covered entity’s emissions data report is free of material misstatement and a qualifying statement whether the emissions data report conforms to the requirements of the MRR*.
- (149) “Verification services” means services provided during verification, including but not limited to reviewing an operator’s emissions data report, verifying its accuracy according to the standards specified in this article (MRR), assessing the operator’s compliance with this article (MRR), and submitting a verification opinion to ARB*.
- (150) “Verification statement”. To be defined at a later date. This term would replace the definition for “verification opinion” in the MRR to support offsets.
- (151) “Verifier” means an individual accredited by ARB to carry out verification services*.

- (152) “Western Climate Initiative” or “WCI” means a collaborative effort of the U.S. states and Canadian provinces that comprise the WCI Region to reduce greenhouse gas emissions in their respective jurisdictions.
- (153) “WCI Partner” or “WCI Partner jurisdiction” means any of the U.S. states and Canadian provinces whose governors and premiers have signed on to the Western Regional Climate Action Initiative Agreement and any successor agreements; as of publication of this Article, the WCI Partners included the Canadian provinces of British Columbia, Manitoba, Ontario, and Quebec, and the U.S. states of Arizona, California, Montana, New Mexico, Oregon, Utah and Washington.
- (154) “Wholesaler” means, in the context of Natural Gas Liquids, any entity that purchases quantities of natural gas liquids for resale or distribution.
- (155) “WREGIS” means Western Renewable Energy Generation Information System.

(b) For the purposes of Sections 95801 through 96550, the following acronyms apply:

- (1) “ARB” means the California Air Resources Board.
- (2) “CAR” means Climate Action Reserve.
- (3) “CEC” means California Energy Commission.
- (4) “CFR” means code of federal regulations.
- (5) “CH₄” means methane.
- (6) “CI” means carbon intensity.
- (7) “CO₂” means carbon dioxide.
- (8) “CO₂e” means carbon dioxide equivalent.
- (9) “GHG” means greenhouse gas.
- (10) “GWP” means global warming potential.
- (11) “HFC” means hydrofluorocarbon.
- (12) “IPCC” means Intergovernmental Panel on Climate Change.

- (13) “ISO” means the International Organization for Standardization.
- (14) “kW” means kilowatts.
- (15) “kWh” means kilowatt hours.
- (16) “LCFS” means Low Carbon Fuel Standard.
- (17) “LPG” means liquefied petroleum gas.
- (18) “MRR” means the Air Resources Board’s Regulation for the Mandatory Reporting of Greenhouse Gas Emissions.
- (19) “MT” means metric tons.
- (20) “MSW” means municipal solid waste.
- (21) “MW” means megawatts.
- (22) “MWh” means megawatt hours.
- (23) “N₂O” means “nitrous oxide”.
- (24) “PUC” or “CPUC” means California Public Utilities Commission.
- (25) “PFC” means perfluorocarbon.
- (26) “SAR” means the Intergovernmental Panel on Climate Change’s Second Assessment Report.
- (27) “SCF” means standard cubic foot.
- (28) “SF₆” means sulfur hexafluoride.
- (29) “WREGIS” means Western Renewable Energy Generation Information System.
- (30) “WCI” means Western Climate Initiative.

Subarticle 3. Applicability

§ 95810 Covered Gases

- (a) This article applies to the following greenhouse gases: CO₂, N₂O, CH₄, SF₆, HFCs, PFCs and NF₃.

§ 95820 Covered Entities

This article applies to all of the entities identified below in (a) through (e).

(a) An entity within California that has one or more of the following processes or operations has a surrender obligation as specified in Subarticle 7 of this article:

- (1) Stationary combustion;
- (2) Cement manufacturing;
- (3) Cogeneration;
- (4) Petroleum refining;
- (5) Hydrogen production;
- (6) Aluminum production;
- (7) Facility operators calcining carbonates;
- (8) CO₂ supplier or transfer recipient;
- (9) Electricity generation;
- (10) Glass production;
- (11) Iron and steel production;
- (12) Lime production;
- (13) Natural gas transmission and distribution;
- (14) Nitric acid production;
- (15) Oil extraction field operation;
- (16) Gas extraction field operation;
- (17) Production of industrial gases;
- (18) Pulp and paper production; and
- (19) Soda ash production.

(b) *Electricity Deliverers.* A first deliverer of electricity delivered to the California Electricity Transmission and Distribution System.

(c) *Transportation Fuel Deliverers.* A producer or importer of one or more of the following transportation fuels:

- (1) California reformulated gasoline;
- (2) Diesel fuel; and

- (3) Biomass fuels.
- (4) [Placeholder] for other fuels.
- (d) *Natural Gas Deliverers.* An entity that distributes or uses natural gas in California as described below:
 - (1) A public utility gas corporation operating in California; or
 - (2) An end user in California that receives natural gas directly from an interstate or intrastate pipeline not included in Section 95820 (d)(1); or
 - (3) An importer of compressed natural gas or liquefied natural gas that is not delivered to a public utility gas corporation.
- (e) *Deliverers of Natural Gas Liquids.* A wholesaler of natural gas liquids operating in California.
- (f) [Placeholder] for additional entities.

Discussion of Concept - Explanation of Points of Regulation by Sector

Facilities: For large stationary sources of greenhouse gas emissions (those that meet or exceed the 25,000 metric tons CO₂e/year threshold) the covered entity will be the facility operator. Staff believes these operators are the entities most likely to have the authority to plan and implement greenhouse gas reduction projects at these large stationary sources. This point-of-regulation approach is identical to that taken in ARB's current mandatory reporting requirements.

Electricity Deliverers: A covered entity will be responsible for the emissions associated with delivering power to the California electric grid (when those associated emissions that meet or exceed 25,000 metric tons CO₂e/year). As required by AB 32, emissions associated with both imported power and power generated in state will be covered.

In the case of generators of electricity within California, the covered entity will be the facility operator. This approach is analogous to the point-of-regulation described above for other large stationary sources of GHG emissions within California. For emissions associated with imported electricity, the covered entity will be the first entity to place power onto the California grid.

This hybrid point-of-regulation approach is referred to as the 'first deliverer' or 'first jurisdictional deliverer' concept and is very similar to that taken in ARB's current mandatory reporting requirements.

Fuel Deliverers: The emissions associated with fuel combustion that are not captured in the above categories will be treated by applying a point-of-regulation 'upstream' of where the combustion occurs. Due to the fact that ARB's current mandatory reporting requirements do

not include these emissions, the appropriate point-of-regulation for these emissions has received significant attention in the cap-and-trade stakeholder process to date (most explicitly in a meeting held on June 23, 2009). Based on feedback from stakeholders, staff is contemplating that the appropriate covered entities for these emissions should be as follows:

- California Reformulated Gasoline – Refiners (producers) and importers of refined products
- California Diesel Fuel – Refiners (producers) and importers of refined products
- Liquid Biofuels – Producers and importers
- Natural Gas – Local distribution companies (LDC), end users when receiving gas by means other than an LDC, and importers of compressed or liquefied natural gas
- Natural Gas Liquids (e.g. Propane) – Wholesalers

§ 95830 Inclusion Thresholds for Covered Entities

- (a) The inclusion threshold for each covered entity is based on the subset of emissions that generate a surrender obligation for that entity. If an entity's annual reported emissions from the categories specified in Section 95950 equal or exceed the thresholds identified below, that entity is classified as a covered entity in the data year for which the threshold is reached and for all future years until the requirements of Section 95830(b) are met.
- (1) *Operators of Facilities.* The threshold for an operator of a facility is 25,000 metric tons CO₂e for the 2008 data year and every data year thereafter.
- (2) *Electricity Deliverers.* The threshold for an electricity deliverer is 25,000 metric tons CO₂e for the 2008 data year and every data year thereafter.
- (3) *Fuel Deliverers.* The threshold for a fuel deliverer is 25,000 metric tons CO₂e for the 2011 data year and every data year thereafter.
- (b) *Effect of Reduced Emissions on an Entity's Surrender Obligation.* A covered entity has a surrender obligation until such time that its annual reported emissions from the categories specified in Section 95950 fall below the 25,000 metric tons CO₂e threshold for six consecutive data

years. Such an entity has a surrender obligation when its annual emissions again exceed the threshold in a future data year.

§ 95840 Opt-In Participants

- (a) This article applies to the following opt-in participants that hold compliance instruments:
- (1) an entity, which is not a covered entity, that voluntarily retires a compliance instrument;
 - (2) an entity, which is not a covered entity, that holds, purchases, or sells a compliance instrument;
 - (3) an entity operating an offset project that is registered with ARB pursuant to Subarticle 13; and
 - (4) members of a trading exchange selected by the Executive Officer to conduct trading of California allowances.
- (b) The following opt-in participants cannot hold compliance instruments:
- (1) an entity verifying greenhouse gas emissions of a covered entity;
 - (2) an entity verifying greenhouse gas reductions, avoidances, or sequestration from an offset project; and
 - (3) an entity approved by the Executive Officer to operate an over-the-counter clearinghouse for the trading of offsets, or a trading facility on which all secondary and derivative trades of registered compliance instruments must be transacted.

Subarticle 4. Compliance Instruments

§ 95850 Compliance Instruments Issued by the Air Resources Board

- (a) *California Greenhouse Gas Emissions Allowances*
- (1) The Executive Officer will create California GHG Allowances pursuant to the schedule set forth in Subarticle 6.
 - (2) A California GHG Allowance is issued by the Executive Officer, who assigns a unique serial number to the allowance that indicates the

annual allowance budget from which the allowance originates and places this instrument into a Holding Account.

- (b) *Offset Credits Issued by ARB*
- (1) The Executive Officer will issue offset credits pursuant to Subarticle 13.
 - (2) Surrender of offset credits shall be subject to the quantitative usage limit set forth in Section 95970.
- (c) Each compliance instrument issued by the Executive Officer represents a limited authorization to emit up to one metric ton of CO₂e of any greenhouse gas specified in Section 95810, subject to all applicable limitations specified in this article. No provision of this article may be construed to limit the authority of the Executive Officer to terminate or limit such authorization to emit. A compliance instrument issued by the Executive Officer does not constitute any form of property or confer any property rights.

§ 95860 Compliance Instruments Issued by Approved External Greenhouse Gas Emissions Trading Systems

Discussion of Concept – Compliance Instruments Issued by External Programs

This article may determine that compliance instruments issued by an external greenhouse gas emissions trading system (external GHG ETS) or GHG offset crediting system should be allowed to meet a surrender obligation in California's cap-and-trade program. The criteria that an external program would have to meet to be approved are defined in Subarticle 12. In future drafts instruments that may be approved at the outset of the program will be listed in this section along with any explicit limits or other relevant details associated with these instruments.

Examples of instruments that are not issued by ARB but may be approved to meet a surrender obligation according to criteria established in Subarticle 12 include:

- Allowances issued by other WCI Partner Jurisdictions;
- Offset credits issued by other WCI Partner Jurisdictions;
- Certified Emission Reductions issued under the United Nations' Clean Development Mechanism; and
- Climate Reserve tons issued by the Climate Action Reserve

Subarticle 5. Registration and Tracking System

§ 95870 Registration and Tracking System

(a) *Requirements for Registration*

- (1) The registrant must designate an authorized account representative.
- (2) The registrant must identify their relevant activities specified in Subarticle 3 which cause the registrant to be subject to this article.
- (3) The registrant must disclose the following affiliations with other registrants:
 - (A) all affiliated entities also registering; and
 - (B) the identities of all entities holding compliance instruments for the benefit of the registrant.
- (4) [Placeholder]: Provisions to be developed.

(b) *Registration Dates*

- (1) A registrant that is a covered entity as of January 1, 2012 must register by March 31, 2012.
- (2) A registrant that becomes a covered entity after January 1, 2012 must register within 90 days of notification that it is a covered entity.
- (3) An opt-in participant registering subject to Section 95840 may register at any time after January 1, 2012.

(c) *Approval of Registration*

- (1) An entity cannot hold a California compliance instrument until the Executive Officer has approved the entity's registration and created a holding account for the entity.
- (2) An entity must maintain a current and valid registration in order to continue to hold California compliance instruments.

(d) *Creation of Holding and Compliance Accounts*

- (1) When the Executive Officer approves registration for an entity qualifying as an opt-in participant under Section 95840(a), the operator

of the California Cap-and-Trade Market Tracking System will create a Holding Account for the registered entity.

- (2) When the Executive Officer approves registration for a covered entity or an entity qualifying as an opt-in participant under Section 95840(a)(1), the operator of the California Cap-and-Trade Market Tracking System will create a Compliance Account for the registered entity.

(e) *Suspension, Revocation, or Restriction of Holding Accounts*

- (1) The Executive Officer may revoke, suspend, or restrict the Holding Account of an opt-in participant for violations of this article.
- (2) The Executive Officer may place restrictions on the Holding Account of a covered entity for violations of this article.

(f) *Accounts Under the Control of the Executive Officer*

The operator of the California Cap-and-Trade Market Tracking System will create and maintain the following accounts under the control of the Executive Officer:

- (1) A Holding Account containing the serial numbers of compliance instruments to be distributed by the Executive Officer; and
- (2) A Compliance Account to which compliance instruments will be transferred to be retired by the Executive Officer.

Subarticle 6. California Greenhouse Gas Allowance Budgets

§ 95890 Annual Base Allowance Budgets for Calendar Years 2012-2020

Discussion of Concept – Annual Base Allowance Budgets

This subarticle identifies how the 'cap', or schedule of annual allowance budgets, will be set. The example base budget numbers are presented here purely for illustrative purposes and will be revised as part of the continued stakeholder participation process on cap setting. These example numbers assume California has not yet linked with its WCI Partners. A spreadsheet describing how these numbers were derived is available at <http://www.arb.ca.gov/cc/capandtrade/meetings/121409/capcalc.xls>

This subarticle also creates a placeholder for a description of how the cap would be set in the

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post-2020 timeframe.

In future drafts this subarticle could contain an adjustment to the base budget numbers to account for greenhouse gas emissions displaced by voluntary renewable electricity investments. A concept box describing this option is included below for stakeholder discussion on this topic.

- (a) The base budgets of California GHG Allowances are set as described in Table 1. The Executive Officer may issue allowances from any base budget at any time by assigning them a unique serial number and placing them into an entity’s Holding Account.

Table 1. CA GHG Allowances Base Budget

Time Period		Annual Base Budget (Millions of CA GHG Allowances)
1 ^{PP} st Compliance Period	2012	197.230
	2013	193.379
	2014	189.527
2 nd Compliance Period	2015	421.025
	2016	409.820
	2017	398.615
3 rd Compliance Period	2018	387.410
	2019	376.205
	2020	365.000

Cap numbers in this table are preliminary and for illustrative purposes only

- (b) The Executive Officer may modify this schedule based on the criteria set forth in Section 95910.

§ 95900 Annual Base Budgets for Calendar Year 2021 and Subsequent Calendar Years

- (a) [Placeholder]: Provisions to be developed.

§ 95910 Modifications to the Annual Base Budgets

- (a) *Administrative Adjustments*

Discussion of Concept – Administrative Adjustments to the Base Allowance Budgets

The stringency of the cap trajectory, composed of the annual allowance budgets, is one of the strongest drivers of the economic impacts and environmental effectiveness of the cap-and-trade system.

Staff has considered the option of creating an adjustment mechanism to prevent any severe under- or over-allocation of allowances. Any correction could be done through either an administrative adjustment to the base budgets based on criteria such as those described below or through some other mechanism (see related Discussion of Concept – Cost Containment in Section 96040).

Mechanisms for administrative adjustments to the base allowance budgets would need to be based on a set of focused criteria that could be written into this regulation. To stimulate discussion staff identifies the following reasons why administrative adjustments might be warranted:

- If a revised estimate of expected emission levels conducted by ARB after the adoption of this regulation demonstrates that emissions from covered entities are expected to be significantly different than the base budgets for the initial years of coverage (197,230,261 metric tons of CO₂e for narrow scope sources in 2012 using the example numbers);
- If a change in scope or thresholds for covered entities is expected pursuant to Subarticle 3 or Subarticle 7; and
- If addition or suspension of a linkage pursuant to Subarticle 12 impacts the scope of the program.

If any mechanism for administrative modifications to base budgets were incorporated into the program design, a stakeholder process could be conceived to release revised annual budgets for public comment.

- (b) *Adjustments to the Base Budgets to Account for Voluntary Investment in Renewable Sources of Electricity Generation.*

Discussion of Concept – Adjustments to the Base Allowance Budgets for Voluntary Investment in Renewable Sources of Electricity Generation

For each compliance period, an estimate of voluntary renewable electricity purchases could be determined and the base allowance budgets adjusted according to the following steps:

- **Ex-ante Estimate of Budget Adjustment Needed:** For each compliance period, an estimate of voluntary renewable energy expected to be generated in California could be determined by ARB using National Renewable Energy Lab (NREL) data. To do this, ARB could calculate a commensurate amount of allowances representing reduced emissions due to this expected level of operation of voluntary renewable energy projects. This amount of allowances could then be withheld from the base budget (earmarked and held in ARB's Holding Account).
- **Submission of Claims:** During the compliance period any party could be allowed to submit a claim of investment in voluntary renewable electricity including an estimate of megawatt hours produced for a given compliance period. This information could be verified by ARB using the Western Region Electricity Generation System (WREGIS) and tracking of California generated Renewable Energy Credits (RECs). ARB could determine a methodology for calculating the amount of emissions displaced by the claimed megawatt hours of voluntary renewable electricity.
- **Ex-Post True-up of Budget Adjustments:** At the end of a compliance period ARB could retire (from the earmarked allowances in its Holding Account) an amount equivalent to the displaced emissions from the claimed amount of renewable electricity generation. In no event could the size of this adjustment exceed a pre-determined percent of the total allowances from the compliance period in question. Any earmarked allowances that resulted from the overestimation of expected reductions vs. claimed reductions could be released in the subsequent compliance period.

Subarticle 7. Surrender Requirements for Covered Entities

Discussion of Concept - The Compliance Cycle

A diagram depicting the compliance cycle is presented below. This figure shows the intended interaction between timing of market operations such as issuance of allowances, reporting, verification and surrender of compliance instruments.

Issuance of Allowances: Allowances will be either auctioned or freely allocated. The compliance cycle could include quarterly auctions as well as one free allocation date in Quarter 2 of each year.

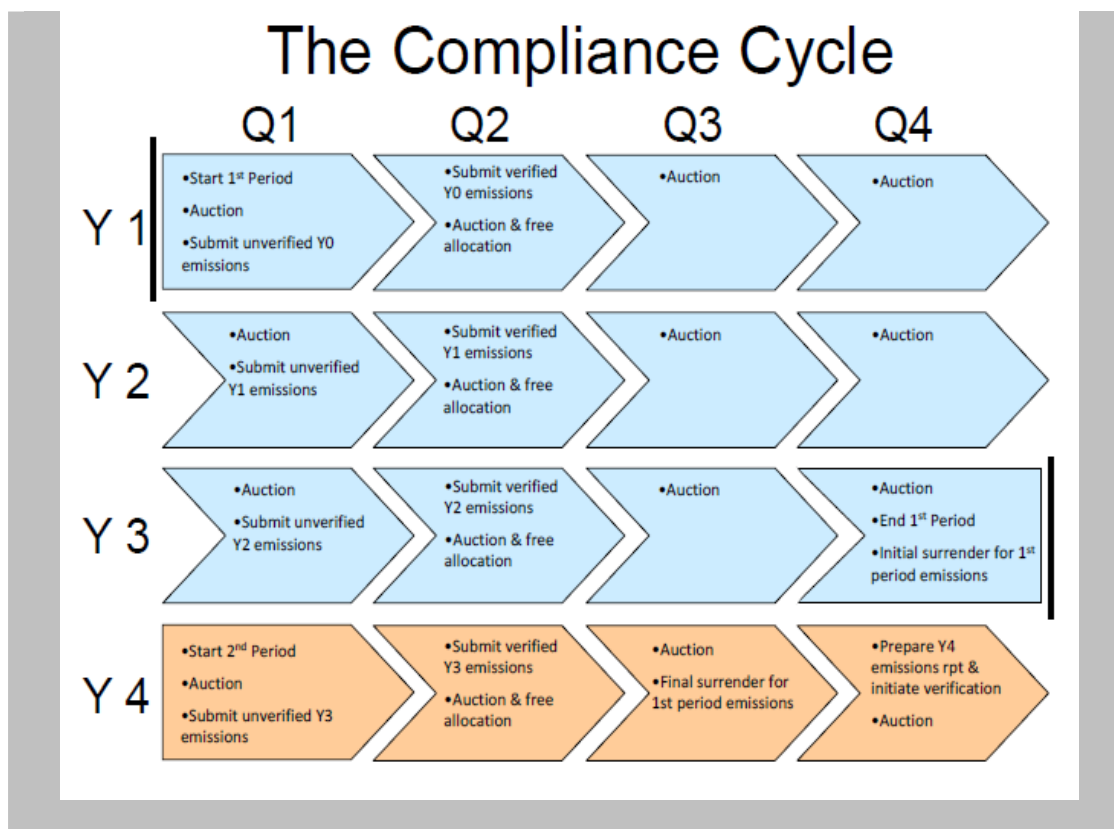
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Reporting: All covered entities in the cap-and-trade system will report to ARB through the mandatory reporting process. The timing reflected here assumes revisions to the current schedule for mandatory reporting of greenhouse gases.

Verification: The program requires all annual emissions reports be verified by an independent accredited verifier. A verifier will check for inconsistencies in monitoring with the approved plan and any misstatement (omissions, misrepresentations and errors) in the emissions report. The verifier will produce an annual verification statement which must then be sent to ARB in Quarter 2 of each year. The proposed timing assumes revisions to the current verification schedule in the mandatory reporting requirements.

Surrender: Surrender of compliance instruments occurs in two steps. The first step (initial surrender) takes place in Quarter 4 of the third year of a compliance period. A true-up process (final surrender) occurs in Quarter 3 of the year following each compliance period. After final surrender covered entities will need to have submitted compliance instruments to match their verified emissions from all three years of the compliance period. Although not depicted in this diagram, ARB is considering requiring covered entities to cover a percentage of their reported emissions at specified intervals during the compliance period. This option is discussed further in the Discussion of Concept – Addressing Bankruptcy of Covered Entities box, found in Section 95960.

We seek feedback from stakeholders on the interactions between the timing of these compliance steps.



§ 95920 General Requirements

(a) *Reporting Requirements.*

Each covered entity identified in Section 95820 is subject to ARB's Regulation for the Mandatory Reporting of Greenhouse Gas Emissions.

(b) *Record Retention Requirements*

Each covered entity must retain all of the following records for at least 10 years and must provide such records within 15 calendar days of receiving a written request from the Executive Officer:

- (1) copies of all data and reports submitted to the Executive Officer under this article; and
- (2) records used to calculate a surrender obligation.

(c) Records must be retained at the covered entity's designated place of business within California.

§ 95930 Duration of Compliance Periods

- (a) The first compliance period starts on January 1, 2012 and ends on December 31, 2014.
- (b) The second compliance period starts on January 1, 2015 and ends on December 31, 2017.
- (c) The third compliance period starts on January 11, 2018 and ends on December 31, 2020.

§ 95940 Phase-in of Surrender Obligation for Covered Entities

Discussion of Concept - Potential Inclusion of Fuel Deliverers in 2012

The ARB stakeholder process for both the Scoping Plan and the cap-and-trade program has thus far discussed a phase-in, or staggered approach with respect to the timing of when covered entities would have a surrender obligation.¹

The 'narrow scope' of the program has been discussed as including electricity deliverers and industrial facilities (when these entities exceed the 25,000 million metric ton CO₂e threshold). These narrow scope sources will be immediately covered when the program begins in 2012.

The 'broad scope' of the program has been discussed as including electricity deliverers, industrial facilities, and deliverers of fuels combusted in transportation, residential and commercial uses. The Scoping Plan and the WCI Design Recommendations both indicate that the obligation for fuel deliverers would begin in 2015.

Some stakeholders have commented that the program should begin with coverage of all these sources in 2012, rather than the phase-in approach taken in this PDR. ARB is requesting comment on whether to accelerate the upstream inclusion of providers of residential, commercial, and transportation fuels into the program based on a desire for a broader market and inclusion of all opportunities for lower-cost emissions abatement at the outset of the program. Rather than beginning inclusion in 2015, fuel deliverers could be included at the onset of the program in 2012.

¹ See page 31 of California's **Climate Change Scoping Plan** (December 2008). Available from: <http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm>

§ 95950 Emission Categories Used to Calculate Surrender Obligations

(a) *Operators of Facilities*

- (1) An operator of a facility has a surrender obligation for every metric ton of CO₂e of GHG emissions reported as either a process emission or a stationary combustion emission.
- (2) Carbon dioxide emissions from the stationary combustion of biomass fuels are excluded from the calculation of a surrender obligation, with the following exceptions:
 - (A) [Placeholder]: Provisions to be developed.

(b) *Electricity Deliverers*

- (1) An electricity deliverer has a surrender obligation for every metric ton of CO₂e of GHG emissions resulting from the generation of electricity that is delivered to the California Electricity Transmissions and Distributions System and reported as either a process emission at a facility within California, a stationary combustion emission at a facility within California or an emission associated with electricity imported into California from a jurisdiction where a GHG emissions trading system has not been approved by the Board according to Subarticle 12.
- (2) Carbon dioxide emissions from the stationary combustion of biomass fuels are excluded from the calculation of a surrender obligation, with the following exceptions:
 - (A) [Placeholder]: Provisions to be developed.

(c) *Fuel Deliverers*

Discussion of Concept - Calculating Surrender Obligation for Fuel Deliverers

California's cap-and-trade program is a multi-sector policy that encompasses the emissions associated with stationary fuel combustion in the industrial, commercial and residential sectors as well as mobile fuel combustion in the transportation sector.

In general, staff aspires to create a consistent accounting framework for calculating a surrender obligation for GHG emissions associated with combustion of a given fuel type across all

possible end-uses of that fuel.

For calculating the surrender obligation for fuel deliverers in the cap-and-trade program, staff's starting point has been to consider the direct emissions that occur when that fuel is combusted. This approach forms the backbone of the accounting framework in ARB's current mandatory reporting requirements.

Due to ARB's work on a Low Carbon Fuel Standard (LCFS), staff has an appreciation for the necessity of creating the correct incentives to encourage low-lifecycle greenhouse gas fuel use choices. The most optimal way to ensure that the correct fuel use choices are encouraged is to develop a full lifecycle accounting framework (as the LCFS has done).¹

The LCFS is a sector-specific transformational policy designed to create new opportunities for low-carbon alternatives to penetrate the market for transportation fuels.² The aggressive targets of this program mean that the LCFS is expected to be the dominant policy that will drive fuel use choices toward low-lifecycle GHG transportation fuels in California for the near term. This expectation may be an important consideration when evaluating possible accounting frameworks for transportation fuels in the cap-and-trade program.

Based on the pathways analyzed under the LCFS program, the fuels expected to play a significant role in the transportation sector in the near future include:

- Gasoline
- Diesel
- Liquid biofuels
- Electricity
- Hydrogen
- Natural gas

In general, gasoline, diesel, and liquid biofuels are primarily used in mobile applications; therefore they are grouped together as 'transportation fuels' for the purposes of this preliminary draft regulation.

The other fuels described above (electricity, hydrogen, and natural gas) are primarily used in

¹ For a recent high-level overview of this topic staff suggests the following:

Fixing a Critical Climate Accounting Error Searchinger et. al., *Science*, Vol. 326. no. 5952, pp. 527 – 528 (October 2009) <http://www.sciencemag.org/cgi/content/short/326/5952/527>

² For a discussion on the interaction between cap-and-trade and low carbon fuel standards staff suggests the following:

Policy Options for Reducing GHG Emissions from Transportation Fuels Pew Center on Global Climate Change (August 2009)
<http://www.pewclimate.org/brief/transportation-fuels-policy-options/Aug2009>

Addressing Biofuel GHG Emissions in the Context of a Fossil-Based Carbon Cap DeCicco University of Michigan (October 2009)
<http://www.greencarcongress.com/files/Biofuels%20in%20Context%20jmd%20Oct%202009.pdf>

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stationary applications, and are thus not included in the category of transportation fuels. Treatment of the emissions associated with use of these fuels would not be transportation-specific; rather, emissions from transportation use of these fuels would be accounted for consistently across all end-uses.

Staff recommends that the surrender obligation for all applications of electricity, hydrogen, and natural gas be assessed in the following ways, without any lifecycle accounting:

- Surrender obligation for emissions from electricity generation would be calculated for direct emissions at the point of generation by the electricity deliverers (as described above).
- Surrender obligation for emissions from in-state production of hydrogen would be calculated from the direct emissions at the production facility. (Treated as any other large stationary source of GHGs as described above).
- Emissions from the combustion of natural gas will be covered at upstream fuel providers or at the large stationary sources. The providers of natural gas will be responsible for the GHG emissions calculated from the carbon content of the fuel they sell multiplied by the quantity sold to all end-users who do not have a direct surrender obligation.

There are several options for calculating the surrender obligation for transportation fuels (gasoline, diesel, and biofuels):

1. Surrender obligation could be based on the net "carbon content" of the fuel. In this case, providers of gasoline and diesel would have an obligation for the direct combustion emissions of the fuel they sell. Biofuel deliverers would have no obligation for biofuels (under the assumption that biofuel carbon content is offset by feedstock carbon sinks). This approach would be consistent with the emissions accounting framework proposed for biomass derived fuels combusted at stationary sources.
2. Surrender obligation would be based on the direct combustion emissions for gasoline, diesel, *and* biofuels. Obligation for transportation fuel providers would be based on the 'tailpipe' emissions of fuels.
3. Surrender obligation would be based on the net "carbon content", as specified above, plus some portion of the fuel's lifecycle emissions, such as direct and indirect land use emissions.
4. Surrender obligation would be based on the lifecycle carbon intensity factor (as determined by the LCFS) for gasoline, diesel, and biofuels. To avoid double-counting the same emissions from covered entities in the fuel pathway, the already-covered portion of the fuel production pathway would need to be netted out from the emissions factor.

ARB is soliciting input on the following questions related to the options presented above:

- What is the appropriate policy to address the portions of fuels' lifecycles that are not directly covered in the cap-and-trade program?
- What is the relative importance of fuel-switching incentives, consistency

across sectors and end uses, scalability to a broader program, and reporting and administrative complexity?

§ 95960 Timing for Calculation of Covered Entity's Surrender Obligation

- (a) An entity, that is a covered entity at the start of a compliance period, must calculate its surrender obligation for the entire compliance period.
- (b) An entity, that is not a covered entity at the start of a compliance period but becomes a covered entity during the first or second year of a compliance period, must calculate its surrender obligation from the first day of the year in which it exceeded the threshold through the last day of the compliance period.
- (c) An entity, that is not a covered entity at the start of a compliance period but becomes a covered entity during the third year of a compliance period, must calculate its surrender obligation from the first day of the year in which it exceeded the threshold through the last day of the next compliance period.

Discussion of Concept – Addressing Bankruptcy of Covered Entities

Compliance entities could emit GHGs and then declare bankruptcy or otherwise cease operation before fulfilling their surrender obligations at the end of the compliance period. Any compliance instrument that an entity owns at the time of bankruptcy could be included in their collection of assets for bankruptcy proceedings, thereby prohibiting claims by ARB. Under this scenario, this form of default would threaten ARB's ability to meet the cap.

To address this, ARB is evaluating two policy options which involve modifying the timing of surrender calculations contained in Section 95960. Neither option reduces the probability of bankruptcy occurring, but instead serves to reduce the magnitude of any potential default.

Option 1: Require covered entities to cover a portion of their annually-reported emissions by retiring compliance instruments at specific periodic intervals.

ARB could hedge against possible bankruptcies while minimizing the loss of flexibility to covered entities by requiring them to cover a percentage of their reported emissions at intervals during the compliance period. This "partial true-up" reduces the magnitude of any default of the surrender obligation.

The partial true-up has the advantages of being easy to implement and reducing the shortfall of compliance instruments in the system created by bankruptcy. The main disadvantage is that it reduces compliance flexibility afforded by the three-year compliance period. It is also inconsistent with the current WCI program design.

Option 2: Shorten the compliance period to one year.

Much of the concern voiced on the bankruptcy issue involves the three-year compliance period. ARB could instead rely on a shorter compliance period to an annual surrender. This option would remove some of the flexibility afforded by the three-year compliance period. However, flexibility could be retained by allowing covered entities to borrow allowances issued for the next annual compliance period. This approach is inconsistent with the Scoping Plan and the current WCI program design.

§ 95970 Quantitative Usage Limit on Designated Compliance Instruments

- (a) Each covered entity must surrender compliance instruments in accordance with the following equation:

O/S must not be greater than or equal to L

Where:

O = Total number of offset credits issued and approved by ARB and all other compliance instruments that are designated as subject to this quantitative usage limit pursuant to Subarticle 4.

S = Covered entity's surrender obligation.

L = Quantitative usage limit, set at 0.0399.

Discussion of Concept – Quantitative Usage Limit on Offsets and other Similar Compliance Instruments

The Scoping Plan includes a limited use of offset credits in the cap-and-trade program. The Scoping Plan highlighted the need for cost-containment while maintaining a strong incentive for emission reductions from covered entities to ensure California transitions to a clean-energy, low-carbon economy.³ The specific policy direction provided by the Plan was that the use of offsets (and allowances from other systems unilaterally linked to California's program) should be limited to no more than 49 percent of the required emission reductions in the cap-and-trade

³ See page 37 of the **Climate Change Scoping Plan**

program.⁴

Staff believes that the most appropriate way to implement this policy goal is through a 'quantitative usage limit' on offsets. This means that the use of offsets will be fixed as a percentage of the total surrender obligation for each covered entity (the remaining obligation must be met by surrendering allowances). One potential approach by which the total emission reductions expected from the program can be translated into a quantitative usage limit is detailed in a spreadsheet developed by ARB staff and available here:

<http://www.arb.ca.gov/cc/capandtrade/meetings/121409/capcalc.xls>

Using these example numbers staff calculates that allowing approximately 4 offset credits to be surrendered for every 96 allowances surrendered will ensure that the majority of emission reductions are made directly by covered entities. This ratio could change based on WCI membership.

Additional complexities are conceivable for calculating this limit. In the context of the WCI, there have been proposals for distributing the right to use the limited amount of offsets among covered entities. A framework for 'carry-over' of any difference between expected offset use and actual offset use to later compliance periods has also been discussed by the WCI.⁵

§ 95980 Surrender of Compliance Instruments by a Covered Entity

- (a) A covered entity must surrender one compliance instrument for each metric ton of CO₂e of GHG emissions calculated pursuant to this subarticle.
- (b) A covered entity must transfer from its Holding Account to its Compliance Account a sufficient number of valid compliance instruments to meet the surrender obligation set forth in Section 95950. This transfer shall be completed within the time period specified in Section 95980(e). Each compliance instrument placed in the Compliance Account must meet all

⁴ The appendix of the Scoping Plan and the WCI design document clarified that this reduction should be defined relative to initial emission levels (e.g., 2012 emission levels) rather than against a business-as-usual emission trend for future years. See page 38 of the **Design Recommendations for the WCI Regional Cap-and-Trade Program** and page C-22 of the **Scoping Plan Appendices Volume I: Supporting Documents and Measure Detail** available from:

http://www.arb.ca.gov/cc/scopingplan/document/appendices_volume1.pdf

⁵ See **WCI Offset Limit Recommendation Paper: CSAD Task 5 Committee Recommendation to Partners** (October 2009) <http://www.westernclimateinitiative.org/component/remository/function/startdown/145/>

- the requirements of this article, and the instruments in the aggregate must meet the requirements of the quantitative usage limit specified in Section 95970.
- (c) A compliance instrument transferred into a Compliance Account during a compliance period may not be removed until after the surrender obligation for that compliance period is fulfilled pursuant to Subsection 95980(g).
 - (d) Entities that become covered entities in the last year of a compliance period are not obligated to surrender compliance instruments until the surrender deadline applicable to the subsequent compliance period.
 - (e) *Deadline for Initial Surrender*

No later than December 31 of the third year of a compliance period, the covered entity must transfer a sufficient number of compliance instruments into its Compliance Account to equal the sum of:

 - (1) its verified reported emissions over the first two years of the compliance period, and
 - (2) [Placeholder]: Specific language to be determined. A percentage of the annual average emissions calculated over the first two years of the compliance period.
 - (f) *Data Review, Reconciliation and Final Surrender*
 - (1) When a positive verification opinion for the third year of the compliance period is received, the Executive Officer will review the verification opinion and the validity and ownership of the compliance instruments surrendered.
 - (2) If the review determines the covered entity has surrendered excess valid compliance instruments, the Executive Officer will transfer the excess compliance instruments back into the covered entity's Holding Account.
 - (3) If the Executive Officer determines that an entity has failed to surrender a sufficient number of valid compliance instruments for its verified reported emissions:

- (A) the covered entity must make one or more remedial transfers of compliance instruments into the Compliance Account to correct the deficit; and
- (B) these remedial transfers must be completed no more than 30 days from the date the Executive Officer notifies the entity of the deficiency.
- (4) Failure to make sufficient remedial transfers will constitute a single, separate violation of this article for each day after the 30-day deadline that sufficient remedial transfers have not been made.
- (g) When the Data Review and Reconciliation Process has concluded, the Executive Officer will:
 - (1) retire the serial numbers of the valid compliance instruments surrendered; and
 - (2) inform systems to which California is linked pursuant to Subarticle 12 of the retirements.

Subarticle 8. Distribution of Allowance Value

Discussion of Concept - Informational Placeholder on Allowance Allocation

What is Allowance Value?

Conceptually allowance value is the economic worth of allowances issued by ARB. Distribution of this value is necessitated by the choice of cap-and-trade as a policy tool. This value can be embodied in the form of allowances themselves, or as proceeds resulting from the sale of allowances at auction.¹

This Draft Contains a Placeholder for Allocation Decisions

In this draft, staff's goal is to provide stakeholders with additional information about allocation

¹ For more information about the 'allowance value' concept see the following references: **Allocation of Allowances in a Potential Greenhouse Gas Cap-and-Trade Program** (ARB staff, March 2008) http://www.arb.ca.gov/cc/scopingplan/pgmdesign-sp/meetings/031708/pgmrdsgn_allocationpaper_pm_3_17_08.pdf

Distribution of Allowances Under the American Clean Energy and Security Act (PEW Center on Global Climate Change, August 2009) <http://www.pewclimate.org/policy-memo/allowance-distribution-under-waxman-markey>

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issues, describe the relationship of the allocation process to related concepts such as recognition of early action, and provide an overview of the status of the Economic and Allocation Advisory Committee (EAAC) process.

In subsequent drafts, this subarticle will contain a detailed proposal delineating who would receive allowance value. Subarticles 9 and 10 will detail the mechanisms by which this value will be distributed to the intended recipients.

In crafting the allocation proposal in subsequent drafts staff will consider the recommendations of the EAAC and all public comment received during that process.² Additionally, after the EAAC process concludes, ARB staff will continue the opportunity for public comment on this topic.

Background on the EAAC Process

During the adoption of the Scoping Plan, the Board directed ARB to solicit expert input on key questions related to the distribution of allowance value³. In response, ARB and the California Environmental Protection Agency created the Economic and Allocation Advisory Committee.

This Committee has been deliberating, through a public process, about the potential claims to allowance value and the mechanisms by which allowance value could be distributed. The committee is in the process of finalizing a report containing a detailed recommendation on these issues. The first draft of this report was released on November 4th. The final report is expected in January 2010.⁴

What are the Potential Claims on the Allowance Value?

The EAAC process has identified three primary claims on allowance value:

- **Compensation for Harm:** Some allocation of allowance value may be justified to compensate those disproportionately impacted by the imposition of the cap-and-trade program and/or historically impacted by air pollution. Compensation debates include discussions of where the impact from the carbon price imposed by the cap-and-trade program is felt. This may be thought of as an examination of who bears the end costs and who receives end benefits from the implementation of this cap-and-trade program. The topic of compensation also encompasses discussions of

² For more information on the Economic and Allocation Advisory Committee Process see: <http://www.climatechange.ca.gov/eaac/index.html>

³ See page 9 of the Scoping Plan Board Resolution (Resolution 08-47) available from: http://www.arb.ca.gov/cc/scopingplan/document/final_sp_resolution.pdf and page 36 of the Climate Change Scoping Plan available from: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf

⁴ Drafts of the EAAC report are available from: http://www.climatechange.ca.gov/eaac/documents/eaac_reports/index.html

⁵ See pages 69-71 of ARB's Climate Change Scoping Plan (December 2008).

⁶ See pages 35-36 of the Scoping Plan for a discussion on auction levels.

how the allowance value could potentially be used to minimize impacts on sectors at risk of emissions leakage.

- **Dividends and/or Tax Reductions to the General Public:** Allowance value could be provided to the public in the form of per-capita rebates or “dividends”, or as cuts in individual income tax rates. A justification offered for the former is the assumption that all Californians have an equal claim on the common pool resource embodied by the allowances. Supporters of this claim argue that the allowance value is inherently owned by Californians and should be used for the benefit of this group. One justification for the latter is that lower tax rates help reduce the inefficiencies caused by the tax system and thus help boost after-tax incomes by more than the magnitudes of the tax reductions.
- **Financing Investments to Achieve the Goals of AB 32 and Related Public Spending Programs:** The third claim on allowance value is based on the argument that targeted public spending programs are necessary to achieve the requirements set forth in AB 32.

The Scoping Plan contained an inclusive list of potential uses of allowance value. The uses contained in this list can easily be placed into one or more of the three categories described above.⁵

What are Possible Mechanisms for Distribution of Allowance Value?

The EAAC deliberation to date has focused on two primary mechanisms of distribution of allowance value—free allocation of allowances and auction.

Inherent in the discussion of free allocation mechanisms thus far has been the assumption that the free allocation is being done primarily to compensate covered entities. This focus is to some extent historical, arising from the allocation choices made in other cap-and-trade programs such as the US EPA Acid Rain Program, RECLAIM and the first phase of the European Union’s Emission Trading Scheme. Much academic work has been done to consider the implications of the different types of free allocation mechanisms to covered entities (e.g., grandfathering vs. benchmarking, updating vs. fixed, etc.).

In principle, free allocation mechanisms could also be designed to distribute allowance value to non-covered entities to address any of the claims outlined above. Entities receiving value in this fashion would then become one type of ‘opt-in’ participant in the California carbon market.

The WCI Design Recommendations called for a minimum of ten percent of the allowances from the first compliance period to be auctioned. The Scoping Plan stated that a transition to a 100 percent auction (with auction proceeds going to further the policy objectives of California’s climate change program) was a worthwhile goal. ARB expects that California will auction significantly more than the WCI minimum levels.⁶

Recognition and Appropriate Credit for Early Action by Covered Entities Relationship to Allocation Mechanisms

Staff expects that the EAAC recommendations will treat the issue of how allocation choices

impact the recognition and appropriate credit for early action mandated by AB 32. The Scoping Plan guaranteed that the method for distributing allowance value chosen would not create a disincentive for early action. Further, the Plan discussed the potential of setting aside allowances from the initial compliance period to reward covered entities that make voluntary reductions prior to 2012.

Subarticle 9. Auction Design and Mechanisms for Distributing Auction Proceeds

§ 96030 Format for Auction of California GHG Allowances

Discussion of Concept – Format of Auction

ARB staff has actively researched auction design and sought public input on auction design features at a March 23, 2009 public meeting. Staff has also participated in the WCI auction design process. ARB staff anticipates making a recommendation after receiving EAAC recommendations on auctions and allocations.

The staff presentation at the March 23 stakeholder meeting may be accessed at <http://www.arb.ca.gov/cc/capandtrade/meetings/032309pm/mar232presentation.pdf>.

§ 96040 Auction Operation and Registration

- (a) The Executive Officer may serve as auction operator or select an entity to serve as auction operator.
- (b) The auction operator will:
 - (1) announce the schedule and administrative process for the auction;
 - (2) process applications and bids; and
 - (3) determine the winning bids and auction price or prices and inform the Executive Officer.
- (c) At least 90 days before each auction the auction operator will provide notice of the following information to all registered entities:
 - (1) the date, time, and location of the auction;
 - (2) application instructions for applying to participate in the auction;
 - (3) the procedures for conducting the auction;
 - (4) the administrative requirements for participation; and

- (5) the number of CA GHG Allowances that will be available at each auction.
- (d) *Auction Registration Requirements*
 - (1) An entity that intends to participate in the auction must complete an auction registration at least thirty days prior to the auction.
 - (2) An entity registering as an auction participant must already be registered as a covered entity or opt-in participant as provided in Section 95840.
 - (3) The Executive Officer may deny participation to an entity whose Holding Account has been revoked, suspended, or restricted.
- (e) [Placeholder]: ARB staff will make recommendations on the following auction design areas pending recommendations from the EAAC on auctions.
 - (1) Participation limits.
 - (2) Purchase limits.
 - (3) Submission of bids.
 - (4) Method of determining auction price or prices and awarding allowances.
 - (5) Use of a demonstration of financial security, and its calculation, as a bid guarantee to ensure financial integrity of the auction.
 - (6) Publication of information on auction results.
- (f) Following each auction, the Executive Officer will:
 - (1) approve and publish the auction results;
 - (2) process financial transactions for winning bids and deposit the proceeds in the Air Pollution Control Fund;
 - (3) transfer CA GHG Allowances won by each entity to its Holding Account; and
 - (4) inform each approved external GHG emissions trading system and the associated tracking system of the allowances purchased at auction.

Discussion of Concept – Cost Containment

Cost containment mechanisms attempt to mitigate prices above a ceiling price or below a floor price. This is sometimes referred to as setting a “price collar.” There are two types of price collars. “Hard collars” set maximum and minimum price controls. “Soft collars” adjust supply of compliance instruments in the market once price triggers are reached. ARB is considering four “soft collar” options which would activate above a ceiling price.

The first option is to use a reserve account to release additional allowances when prices are high. This mechanism fits within the PDR design but provides only limited cost containment.

The second option is to relax the quantitative usage limit on offsets. This increases the number of offsets which may be used, but at a cost of obtaining local emission reductions.

The third option is to expand the list of acceptable offset project types beyond what is currently discussed by the PDR. This option also increases the supply of available offsets at a possible cost to offset integrity.

The fourth option is to allow use of allowances from the next compliance period (“borrowing.”) This increases the supply of allowances, but creates the risk of “cascading” shortages in future compliance periods.

Staff is considering options for setting a “soft” price floor. Among these options are funding a reserve through part of the annual allowances created, and using an auction reserve price to fund a reserve through allowances remaining unsold if the auction settles at a reserve price. ARB staff anticipates developing further provisions in this subarticle after receiving the recommendations of the EAAC on auctions and allocations.

Staff has focused on three key issues in developing these options:

1. Any attempt at price mitigation could limit price discovery and adjustment which are main benefits of a cap-and-trade program.
2. The mechanism must respect the integrity of the cap by not including a “safety valve.”
3. The options may require changes in the PDR on offset quantitative limits, offset quality, and linking.

Subarticle 10. Free Allocation Mechanism

[Placeholder]: Provisions to be developed.

Subarticle 11. Trading and Banking

§ 96080 Trading

- (a) *General Prohibitions on Trading.* The following practices involving any California compliance instruments are prohibited:
- (1) a trade involving a counterparty whose identity is not disclosed to the Executive Officer;
 - (2) a trade or a series of trades that manipulates the value of a published market index;
 - (3) misreporting trade information used to calculate a published market index; and
 - (4) a trade involving, related to, or associated with:
 - (A) any manipulative or deceptive device in violation of this article;
 - (B) a corner or an attempt to corner the market for a regulated instrument;
 - (C) fraud, or an attempt to defraud any other entity;
 - (D) a false, misleading, or inaccurate report concerning information or conditions that affects or tends to affect the price of a regulated compliance instrument;
 - (E) an application, report, statement, or document required to be filed pursuant to this article, a statement which is false or misleading with respect to a material fact, or which omits any material fact required to be stated therein or necessary to make the contents therein not misleading; or
 - (F) any trick, scheme, or artifice to falsify or conceal a material fact, including use of any false statements or representations, written or oral, or documents made or provided to an entity on or through which transactions in regulated instruments occur, are settled or are cleared.
- (b) *Holding Limit.* The Executive Officer will establish a market holding limit calculated as the maximum percentage of outstanding California

compliance instruments that may be held by a registrant or a group of affiliated registrants.

- (1) In making this determination:
 - (A) holdings of affiliated entities will be considered as being held by a single entity; and
 - (B) beneficial holdings by an agent will be considered as part of the holding of the owner.
- (2) A separate limit may be set for financial intermediaries holding instruments beneficially for other entities.
- (c) *Restriction on Market Participants.* The Executive Officer may impose the following restrictions on market participants that violate market rules specified in this subarticle:
 - (1) the number of compliance instruments owned by a covered entity or opt-in registrant may be restricted to an amount sufficient to cover its reported emissions;
 - (2) covered entities may be subject to annual surrender requirements; and
 - (3) the registration of opt-in registrants under Section 95870 may be suspended or revoked.

Discussion of Concept – Use of Trading Facilities

Use of a Selected Trading Facility for Secondary and Derivative Market Transactions for CA GHG Allowances

ARB needs comprehensive and timely information on compliance instrument transactions in order to monitor the market. Staff believes the information available to regulators from exchange trading of secondary and derivative products is likely to be sufficient for monitoring trades on those venues. One issue relating to further development of this subarticle is how ARB might obtain similar levels of information for bilateral trades and non-exchange traded derivatives.

Staff is considering whether ARB should promote the trade of CA GHG Allowances on trading facilities selected by the Executive Officer. Selected trading facilities might be registered with ARB in order to obtain agreement on information disclosure. Members of a selected trading facility could be registered as opt-in participants.

The registration agreement might require the selected trading facility to report all transactions to the Executive Officer.

- The registration agreement could specify the frequency and content of transactions reporting. Staff expects reporting to allow real-time monitoring of market prices and ownership.
- The Executive Officer could then review transactions for compliance with ARB regulations and approve the transfer of serial numbers of the instruments between Holding Accounts of the counterparties.

These exchanges are regulated by the Commodity Futures Trading Commission (CFTC), which establishes market rules on position limits and reporting which are of interest to ARB. Federal regulation may limit any arrangements ARB could make directly with exchanges. ARB will also explore the potential to establish information-sharing arrangements directly with the CFTC.

ARB is interested in working with stakeholders on transaction disclosure rules for bilateral trades, with the objective of obtaining the same level of information that is available for exchange-based trades.

Discussion of Concept – Use of Clearing Facilities

Use of a Selected Clearing Facility for Bilateral Trades of Offset Credits

Offsets present a unique problem in trading since there is a possibility that the GHG reductions could be reversed. Staff does not have a reliable estimate of how likely reversals will be, only that they could occur. Staff is recommending that the covered entity submitting offsets that are found on review to be deficient be held responsible for replacing them. Staff expects that market participants will deal with the issue through “make whole” contracts between offset developers and purchasers. It is likely that these contracts may not be standardized when the system begins operation, and thus the contracts cannot be traded on exchanges. Staff therefore recommends that bilateral trades of offset contracts be cleared through a commercial clearing mechanism to maintain contract documentation until standardized contracts are developed suitable for exchange trading.

§ 96090 Banking

- (a) *Allowances issued for a current or previous compliance period.* A CA GHG Allowance or an allowance approved pursuant to Subarticle 12 may

- be held or used to meet a surrender obligation if it has been issued from an allowance budget year within a current or previous compliance period.
- (b) *Allowances issued for a future compliance period.* A CA GHG Allowance or an allowance approved pursuant to Subarticle 12 may be held but not be used to meet a surrender obligation if it is issued from an allowance budget year within a future compliance period.
- (c) *Voluntary Retirement of Compliance Instruments.* Any entity may voluntarily submit any compliance instrument to the Executive Officer for retirement.
- (d) *Offset Credits.* An offset credit issued or approved by ARB pursuant to Subarticle 13 may be held or used to meet a surrender obligation if it has been verified.
- (e) *Expiration of Compliance Instruments.* A California compliance instrument does not expire and is not removed from the tracking system until:
- (1) it is surrendered by a covered entity and retired by the Executive Officer;
 - (2) an entity voluntarily submits the instrument to the Executive Officer for retirement; or
 - (3) the instrument is retired by an approved external GHG emissions trading system to which the California system is linked as provided in Subarticle 12.

Subarticle 12. Linkage to External Trading or Offset Crediting Systems

§ 96150. General Requirements

- (a) Compliance instruments issued by an external greenhouse gas emissions trading system (GHG ETS) or a greenhouse gas offset crediting system may be used to meet the requirements of this article only if the GHG ETS or GHG offset crediting system has been approved by the Board as provided in this subarticle.

- (b) To be linked to the California cap-and-trade system established by this article, an external GHG ETS or GHG offset crediting system must enter into a Memorandum of Understanding (MOU) as provided in Section 96190.

§ 96160. Requirements for Approval of External Greenhouse Gas Emissions Trading Systems

- (a) *Emissions Trading Systems for Purposes of Linkage.* In order for an external GHG ETS system to be linked to the California cap-and-trade system, the Board must approve the external GHG ETS for purposes of linkage. The Board must also specify if the link between California and the external GHG ETS is a unilateral or bilateral linkage. Compliance instruments issued by an external GHG ETS that is approved by the Board may be used to meet a surrender obligation. The Board will make the determination for approval following its evaluation of such a system based on the requirements described in this subarticle, and after providing public notice and an opportunity for public comment.
- (b) *Design Requirements for External Greenhouse Gas Emissions Trading Systems.* In order for an emissions trading system to be approved for purposes of linkage, an external GHG ETS must:
- (1) be operated by a sub-national, national or supra-national government;
 - (2) commit to a binding and annually declining aggregate total greenhouse gas emissions cap that covers one or more economic sectors in the system boundary;
 - (3) include mechanisms that prevent allowances from being issued that would exceed its aggregate total greenhouse gas emissions cap;
 - (4) contain mechanisms and provisions to ensure that offset credits accepted into the system provide equal or greater assurance of the integrity of such offset credits to that required by Subarticle 13;
 - (5) restrict the use of offset credits comparable to the quantitative usage limit established in Section 95970;

- (6) provide for comparable monitoring, reporting, verification, compliance, and enforcement of its greenhouse gas emissions and emission reductions to that set forth in this article;
- (7) provide for compliance instruments that, when voluntarily retired or used to meet a surrender obligation in any GHG ETS, are disqualified from further use in any system.
- (c) *Requirements for External GHG ETS for Registration, Market Tracking, Enforcement and Information Transfer.* In order for an emissions trading system to be approved for purposes of linkage:
 - (1) The system must have a comprehensive registration requirement for all market participants and be capable of transferring information on all registrants between systems. The system must be able to:
 - (A) transfer between systems information on creation, approval, and retirement of compliance instruments;
 - (B) serve as a permanent repository of ownership information on all transactions involving approved compliance instruments from the time they are created or approved to the time they are retired, including prices, counter-parties, and other documentation; and
 - (C) provide a complete history of ownership of all approved compliance instruments to the agencies in linked systems that may retire the instruments.
 - (2) The system must have an enforcement mechanism that can:
 - (A) provide general market surveillance, identifying suspect transactions, undertaking investigations and enforcement actions;
 - (B) ensure consequences for noncompliance are substantially the same in all linked systems;

- (C) respond in a timely manner to requests by enforcement agencies in linked systems for information on market participants under investigation by those agencies; and
 - (D) transfer between systems in a timely manner a complete record of all enforcement actions undertaken by the system's jurisdictional enforcement authority.
- (3) The system must be capable of transferring between systems market sensitive information necessary to monitor market trends on a regional basis, including:
- (A) prices, aggregate emissions, positions of major market participants and expected issuance of offset credits; and
 - (B) information between linked systems that can be released to the public in a coordinated and consistent manner.

§ 96170. Requirements for Approval of GHG Offset Crediting Systems

- (a) In order for a GHG offset crediting system to be approved for purposes of linkage, the system must:
- (1) be a regulatory or voluntary GHG offset crediting system;
 - (2) the system operator must enter into a MOU with ARB as provided in Section 96190;
 - (3) have publicly published standards, quantification methodologies, and protocols that require that credited GHG emission reductions, avoidances, or sequestration are real, additional, quantifiable, permanent, verifiable, and enforceable as defined in Article 5 (or in Section 96220);
 - (4) have developed and approved offset quantification methodologies and standards for the relevant approved project types pursuant to Section 96240 that provide equal or greater assurance of the integrity of such offset credits to that required by Subarticle 13;

- (5) have developed through a public process standards, quantification methodologies, and protocols for offset project types;
- (6) require that all greenhouse gas emission reductions or avoidances, or greenhouse gas sequestrations be verified by an accredited third-party verification body;
- (7) require that each issued offset credit is registered in a publicly accessible registry, with individual serial numbers assigned to each offset credit;
- (8) be capable of transferring information on all transactions between systems;
- (9) have a tracking system which serves as a repository of issuance, ownership, and retirement information on all offset credits it issues;
- (10) ensure that no offset credit is issued for an activity that the program administrator or representative, has funded, solicited, or served as a fund administrator for the development of an offset project that resulted in offset credits issued under its system; and
- (11) ensure that an offset credit is disqualified from further use in any system when that credit is voluntarily retired or used to meet a surrender obligation in any program.

§ 96180. Types of Linkage

- (a) *Unilateral Linkage.* A unilateral linkage must be approved by the Board prior to linkage. Once a unilateral linkage is established, compliance instruments issued by a Board approved external GHG ETS or GHG offset crediting system may be used to meet a surrender obligation. Under a unilateral linkage, the use of compliance instruments issued by a Board approved external GHG ETS or GHG offset crediting system are subject to the quantitative usage limit specified in Section 95970.
- (b) *Bilateral Linkage.* A bilateral linkage must be approved by the Board. Once a bilateral linkage is established, compliance instruments issued by

a Board approved external GHG ETS or GHG offset crediting system may be used to meet a surrender obligation. An allowance issued by a Board approved external GHG ETS is not subject to the quantitative usage limit specified in Section 95970. An offset credit issued by a Board approved external GHG ETS or GHG offset crediting system is subject to the quantitative usage limit specified in Section 95970.

§ 96190. Agreement

- (a) In the case of either a unilateral and bilateral linkage, the Executive Officer shall enter into a MOU with a Board approved external GHG ETS or GHG offset crediting system to ensure that such program:
 - (1) is notified of ARB's approval under this subarticle;
 - (2) provides appropriate enforcement provisions including verification of emissions, verification of offset credits based on approved offset quantification methodologies, sufficient tracking and registration systems and related infrastructure that record and track emission and compliance instruments; and
 - (3) provides for the disqualification of the issued compliance instrument for subsequent use under any system, whether such use is a sale, exchange, or submission to meet a surrender obligation.

§ 96200. Eligible Allowance Vintages

- (a) The Board shall determine which vintages for allowances issued by an external GHG ETS may meet a surrender obligation under this article.

§ 96210. Suspension of Linkage

Discussion of Concept – Suspension of Linkage

ARB needs to develop criteria for suspending linkages to jurisdictions or programs that subsequently fail to meet ARB's requirements for linkage under this subarticle.

Subarticle 13. Offset Credits

Discussion of Concept – Creation of Offset Credits

This subarticle involves complex legal, enforcement, and administrative issues that require public comment and staff consideration. ARB must be able to ensure the environmental integrity of the offset program, even if conducted by a separate authority. In this context, ARB is soliciting public comment on the conceptual approach and regulatory structure for how an offsets system might be administered by either ARB or an independent entity that reports to the Board.

Regardless of whether ARB creates offset credits, or approves offset credits issued by external programs, all GHG reductions that occur as a result of an offset project, would need to meet AB 32 and ARB criteria for what constitutes an offset credit for compliance purposes.

The approach laid out in this PDR calls for ARB to become a credit issuing body that will also approve offset credits that are issued by external programs. For some of the administrative functions of the credit issuing body ARB may choose to either contract out or designate an outside entity to perform those tasks. The following describes the context of the preliminary draft regulatory language which follows and reflects ARB's current thinking for the implementation of the offset system. We invite comment on whether this is the right role for ARB to play in the offset market.

Creation of Offset Credits

An offset credit used for compliance purposes must represent a reduction or avoidance of GHG emissions, or GHG sequestration that is real, additional, quantifiable, permanent, verifiable and enforceable.

Offset credits are created for GHG reductions, avoidances or sequestration that have been quantified, verified and recorded by a credit issuing body. A credit issuing body reviews all project quantification and verification information to determine if a reduction, avoidance or sequestration of GHGs has occurred. Once the credit issuing body determines that the reduction occurred, they create (or issue) an offset credit, which represents a ton of GHG reduction, by assigning a unique serial number for that specific ton. In the California offset system offset credits created by many different credit issuing bodies may be approved for use.

Role of ARB in the Offset Market

There are several roles that ARB could play as the administrator of an offsets system. In determining how to design and implement an offsets system in California, ARB would need to determine if it would become a credit issuing body for offset credits, approve offset credits issued by external programs or some combination of the two. A credit issuing body, whether internal or external, would provide specific roles during the offset credit creation process including: approving offset quantification methodologies, reviewing and approving offset projects for registration in the system, overseeing the monitoring and recordkeeping of project activities and reviewing verification statements from third-party verifiers to make the determination of whether offset credits should be issued and, if so, how many.

§ 96220. General Requirements for Offset Credits

- (a) All offset credits issued by ARB and all offset credits issued by a Board approved external program must:
 - (1) represent a reduction or avoidance of greenhouse gas emissions, or greenhouse gas sequestration that is real, additional, quantifiable, permanent, verifiable and enforceable;
 - (2) be registered by ARB in the compliance instrument tracking system; and
 - (3) be subject to the quantitative usage limit pursuant to Section 95970.
- (b) An offset credit issued by ARB must:
 - (1) result from the use of an offset quantification methodology adopted by the Board pursuant to Section 96230;
 - (2) result from an offset project that is registered pursuant to Section 96260 and 96280;
 - (3) follow the monitoring, reporting and recordkeeping requirements pursuant to Section 96290;
 - (4) be verified pursuant to Section 96300;
 - (5) be issued pursuant to Section 96330; and
 - (6) be registered pursuant to Section 96370.
- (c) An offset credit issued by a Board approved external program must meet the relevant requirements of Sections 96400 through 96430.

§ 96230. Approval of Offset Quantification Methodologies

- (a) Offset quantification methodologies and updates to approved offset quantification methodologies will be approved by the Board as provided in Section 96230 and after public notice and the opportunity for public comment.

Discussion of Concept – Requirements and Approval of Offset Quantification Methodologies

For offset credits that ARB would issue, all offset quantification methodologies would be adopted by the Board. Board adopted methodologies could also be used by external offset crediting systems. In order for offset credits issued by an external GHG offset crediting system to be used for compliance purposes, the Board would need to approve that program based on criteria described in Subarticle 12.

Due to potential future updates in scientific data and quantification methods, the offset quantification methodologies themselves will not be written into the cap-and-trade regulation. The regulation will set out the process by which the Board can approve and amend offset quantification methodologies based on criteria spelled out in the regulation.

ARB staff would prepare an annual item to be considered by the Board, which would include any new offset quantification methodologies or any revisions to Board-approved quantification methodologies. Before ARB staff would bring the update to the Board, a public stakeholder process would be conducted to develop, review and revise the offset quantification methodologies that would be brought forward that year. A process would also be established for the periodic review of offset quantification methodologies to ensure that they reflect the current regulatory environment and scientific information.

The Board would adopt standardized methodologies which quantify reductions based on general criteria and emissions factors pre-established in the offset quantification methodologies. This approach would result in streamlining the estimation of project baselines and determining the additionality of projects using standard eligibility criteria. Beginning in 2007, the Board began adopting offset quantification methodologies according to this approach.

§ 96240. Requirements for Approval of Offset Quantification Methodologies.

- (a) To be approved by the Board an offset quantification methodology must consist of standardized methods and meet the requirements of this section.

- (b) *Measurement and Quantification.* The standardized methodology must determine, with a high level of offset accuracy, the extent to which greenhouse gas emission reductions or avoidances, or greenhouse gas sequestration, are achieved by an offset project of that type. The quantification method in the standardized methodology:
- (1) must be replicable for an offset project of that type;
 - (2) must establish that an offset project of that type will result in greenhouse gas emission reductions or avoidances, or greenhouse gas sequestration that exceeds a relevant activity baseline; and
 - (3) must include plans for monitoring and reporting consistent with an offset project of that type.

Discussion of Concept - Offset Project Types

Under the approach laid out in the regulatory language, ARB would only approve offset quantification methodologies for project types that:

- accurately quantify GHG emission reductions or avoidances or GHG sequestration and emissions baselines;
- account for scientific and quantification method uncertainty associated with monitoring;
- address any public health, welfare, social, economic, or energy effects;
- address activity-shifting and market-shifting leakage;
- address direct emissions reductions;
- generate GHG emission reductions or avoidances, or GHG sequestrations that are permanent; and
- result in verified reductions according to rigorous standards including those established in this Article for compliance offset credits.

Discussion of Concept – Ozone Depleting Substances

Ozone-depleting substances (ODSs) are high global warming potential GHGs, but are not among the GHGs specifically mentioned in AB 32. Production of ODSs is being phased out through the Montreal Protocol, but there are significant banks from which these gases will be emitted in coming years unless they are destroyed. ODS destruction has stratospheric ozone benefits in addition to climate benefits. ARB is considering whether to allow offset project types that reduce GHGs that are not specifically called out in AB 32 (such as destruction of ODSs that are no longer in production).

- (c) *Additionality.* The standardized methodology must determine the additionality of greenhouse gas emission reductions or avoidances, or greenhouse gas sequestration, achieved by an offset project of that type. The determination of additionality in the standardized methodology must be replicable for an offset project of that type. The standardized methodology must ensure, at a minimum, that any greenhouse gas emission reductions or avoidances, or any greenhouse gas sequestration, is considered additional only to the extent that it results from activities that:
- (1) are not required by or undertaken to comply with any federal, state or local law or ordinance, including any regulation, consent order, and Memorandum of Understanding;
 - (2) are not considered common practice or would not have occurred under a business-as-usual scenario;
 - (3) have an offset project commencement date after December 31, 2006; and

Discussion of Concept – Offset Project Eligibility Date for Additionality

Establishing the eligibility date for an offset project is critical to determining the additionality of offset projects. For the issuance of offset credits ARB is proposing that offset projects which commence after December 31, 2006 be eligible. This date reflects the implementation of AB 32 and makes the bounds more clear for ARB to determine if an offset project was implemented to achieve AB 32 goals. California will continue to work with stakeholders and our WCI Partners to select a date that is appropriate for California and the WCI region.

- (4) exceed the activity baseline calculated by the standardized methodology.
- (5) Any portion of GHG emission reductions or avoidances, or any GHG sequestration resulting from public grants or government grants will not be considered additional.

- (d) *Activity Baselines.* The standardized methodology for activity baselines must do the following:
- (1) establish how the activity baseline is calculated for an offset project of that type;
 - (2) establish that the baseline in the standardized methodology is replicable for an offset project of that type;
 - (3) reflect a conservative estimate of business-as-usual performance or practices for the relevant type of activity; and
 - (4) be calculated based on all relevant greenhouse gas sinks and sources in the offset project boundary.
- (e) *Accounting for Activity-Shifting and Market-Shifting Leakage.* The standardized methodology must account for and mitigate potential activity-shifting and market-shifting leakage, from an offset project of that type.
- (f) *Accounting for Offset Uncertainty.* The standardized methodology must account for any offset uncertainty with respect to the greenhouse gas emission reductions or avoidances, or greenhouse gas sequestration, from an offset project of that type.
- (g) *Permanence.* The standardized methodology must ensure that any greenhouse gas emission reductions or avoidances, or greenhouse gas sequestration achieved by an offset project of that type results in a permanent reduction or avoidance, or a net increase in sequestration, and that full account is taken of any actual or potential risks of reversal with an adequate margin of safety.
- (h) *Requirements for No Net Harm.* The standardized methodology must ensure that the offset project type does not cause or contribute to adverse effects on human health or the environment.
- (i) *Crediting Periods.* The standardized methodology must determine the crediting period for an offset project of that type. The crediting period must be no fewer than 5 and no greater than 10 years for any project type other than a project type involving greenhouse gas sequestration. The

crediting period must be no fewer than 10 and no greater than 30 years for any project type that involves greenhouse gas sequestration.

- (j) *Requirements for Monitoring and Reporting.* The standardized methodology must include monitoring requirements to quantify baseline and GHG emission reductions, avoidances or sequestration with a high level of accuracy. The standardized methodology must ensure that enough data is collected to provide information on the conformance of an individual offset project with the monitoring methods in the standardized protocol. It must also provide transparent calculations of any GHG emission reductions, avoidances or sequestration.
- (k) *Requirements for Supplemental Project Specific Verification.* The offset quantification methodology may define specific requirements for verification of an offset project of that type. An offset project must meet any verification requirements approved in the offset quantification methodology as approved pursuant to Section 96230 in addition to those verification requirements in Section 96300.

§ 96250. Requirements for Offset Project Operators

- (a) Before an offset project can be registered with ARB the Offset Project Operator must be identified.
- (b) The Offset Project Operator must register for a Holding Account, pursuant to Section 95870.

§ 96260. Registration of Offset Projects for ARB Issued Offset Credits

- (a) *Offset Project Registration Requirements.* In order for an offset project to be registered with ARB the project must meet all of the following criteria:
 - (1) the project must use an offset quantification methodology that has been approved by the Board;

Discussion of Concept – Current Board Approved Offset Quantification Methodologies

Beginning in 2007 the Board began adopting offset quantification methodologies according to a top-down approval process. ARB believes that the quantification methods for calculating emission reductions in the Board approved offset quantification methodologies are of the highest quality and should be integrated into the compliance system. For the verification of offset credits issued according to these quantification methods, the reductions will need to be subject to regulatory verification requirements as implied in AB 32.

- (2) the project must meet the additionality requirements specified in this subarticle;
- (3) [Placeholder]: The project must be located in a geographical area in which ARB will issue offset credits;

Discussion of Concept – Where Should California Issue Offset Credits?

Through the Scoping Plan process ARB decided that it would not geographically limit where offset credits can come from. Staff is currently evaluating whether ARB issuance of offset credits should be limited to California, North America or not at all. There are 4 major options for limiting the location of offset projects where California will issue project-based offset credits. This does not include limiting the geographic location of offset credits issued by an external body and approved by ARB.

1. ARB issues offset credits only for projects located in California.
2. ARB issues offset credits only for projects located in the United States.
3. ARB issues offset credits for projects located in the United States, Canada and Mexico (reflects WCI recommendation).
4. ARB issues offset credits for projects internationally.

The smaller the geographic area in which ARB issues offset credits, the more dependent California becomes on the supply of offset credits issued by external programs. Limiting the geographic area for which California would issue offset credits would not preclude ARB from accepting offset credits from other parts of the world, if issued by a Board approved external program.

Conversely, the smaller the geographic area in which California issues offset credits, the more practical oversight ARB has over the offset credits it issues. More control, however, would also require more ARB staff resources to administer.

The larger the geographic area in which California issues offset credits, the more resources

PRELIMINARY DRAFT
FOR PUBLIC REVIEW AND COMMENT

are needed to review offset projects, verification statements and the assertions for offset credit issuance.

For projects outside of California where there is not the same level of regulatory stringency for certain emitting activities, staff is evaluating whether a benchmark for additionality should be set at the California regulatory level.

ARB invites comment on which option should be pursued and whether a benchmark should be set at the California regulatory level.

- (4) the offset project must comply with all local, state and federal laws that apply to the project; and
 - (5) the Offset Project Operator must not be subject to any applicable Holding Account restrictions imposed pursuant to Section 96460.
- (b) *Determination for Approval of Offset Project Registration.* In order for an offset credit to be issued by ARB the Offset Project Operator must register the offset project. An offset project may be considered for registration with ARB when the Offset Project Operator submits the following information:
- (1) an application for offset project registration;
 - (2) identification of the Offset Project Operator;
 - (3) the offset quantification methodology that will be used to quantify, monitor, report and verify the GHG emission reductions, avoidances or sequestration resulting from the offset project;
 - (4) location of the offset project and the project boundaries;
 - (5) the date of offset project commencement;
 - (6) demonstration of additionality of the project;
 - (7) description of environmental impacts of the project;
 - (8) information on the sources of public funding for the project; and
 - (9) demonstration that the offset project is otherwise lawful and complies with all local, state and federal laws.
 - (10) [Placeholder]: Provisions to be developed.
- (c) *Timing for Offset Project Registration Application.* An application to register an offset project must be submitted by the applicant no later than

- the time at which an offset project's first verification statement is submitted to ARB.
- (d) *Notice of Receipt of Offset Project Registration Documentation.* After submittal of the application for offset project registration and the necessary documentation pursuant to Section 96260(b), the applicant will receive within 30 days notice by ARB of receipt of the documentation.
 - (e) *Notice of Completion of Petition for Offset Project Registration.* Within 60 days of providing a notice of receipt, the applicant will be notified, after review by ARB, if the petition and documentation submitted pursuant to Section 96260(b) are complete and can be processed.
 - (f) *Notice of Determination of Offset Project Registration.* Not later than 180 days after ARB notification that the application and documentation is complete, the applicant will be notified by ARB if the offset project registration has been approved or rejected. If the offset project registration is rejected, the applicant will be provided the reasons for denial. After an offset project is registered, the Offset Project Operator will not be required to resubmit documentation for the registration of an offset project, except as provided in Section 96280.
 - (g) *Determination for Timing and Duration of Initial Crediting Period.* The initial crediting period begins with the date that the first verified emission reductions took place according to the first annual verification statement that is received by ARB. The length of the crediting period will be specified in the Board approved offset quantification methodology and may vary based on offset project type.

§ 96270. Approval of a Renewed Crediting Period

- (a) *Determination for Approval of Renewed Crediting Period.* An Offset Project Operator may be granted a renewed crediting period, based on determination by the Executive Officer, to commence after the conclusion

of the initial crediting period. An offset project may be considered for a renewed crediting period when it submits the following information:

- (1) an application for renewed crediting period;
 - (2) the offset quantification methodology that will be used to quantify, monitor, report and verify the GHG emission reductions, avoidances or sequestration resulting from the offset project;
 - (3) demonstration of additionality of the project;
 - (4) description of environmental impacts of the project;
 - (5) information on the sources of public funding for the project; and
 - (6) demonstration that the offset project is otherwise lawful and complies with all local, state and federal laws.
 - (7) [Placeholder]: Provisions to be developed.
- (b) *Timing for Renewal of Crediting Period.* ARB will consider the renewal of a crediting period application no sooner than 18 months and no later than 9 months before the conclusion of the initial crediting period.
- (c) *Notice of Receipt of Renewal of Crediting Period Documentation.* After submittal of the application for renewal of crediting period and the necessary documentation pursuant to Section 96270(a) the applicant will receive within 30 days, notice by ARB of receipt of the documentation.
- (d) *Notice of Completion of Petition for Renewal of Crediting Period.* Within 60 days of providing a notice of receipt, the applicant will be notified, after review by ARB, if the application and documentation submitted pursuant to Section 96270(a) are complete and can be processed.
- (e) *Notice of Determination of Renewal of Crediting Period.* Not later than 180 days after notice that the application and documentation is complete the applicant will be notified by ARB if the renewed crediting period has been approved or rejected. If the renewed crediting period is rejected, the applicant will be provided the reasons for denial.
- (f) *Limitations for Renewal of Crediting Period.* A crediting period may not be renewed if the offset project or offset project type no longer meets the

requirements for additionality. Additionality will be assessed as of the date ARB notifies the applicant that the petition for renewal of the crediting period is complete.

§ 96280. Renewal of Registration for Renewed Crediting Period

- (a) In order for an ARB offset credit to be issued for a renewed crediting period, the registration of the offset project must be renewed with ARB. The registration renewal will occur when the Offset Project Operator submits the following information:
 - (1) an application for renewal of offset project registration; and
 - (2) the notification by ARB of approval of renewed crediting period.
 - (3) [Placeholder]: Provisions to be developed.
- (b) After an offset project is registered for the renewed crediting period, the Offset Project Operator will not be required to resubmit documentation for the registration of an offset project during the offset project's renewed crediting period.

§ 96290. Monitoring, Reporting and Record Retention Requirements for Offset Projects

- (a) *General Requirements for Monitoring Equipment for Offset Projects.* The Offset Project Operator must employ procedures for monitoring measurements for non-sequestration offset projects with an offset uncertainty of no more than ± 5 percent. For sequestration offset projects offset uncertainty levels will be determined in the offset quantification methodology approved by the Board for an offset project of that type. All monitoring measurement devices must be maintained and calibrated in a manner and at a frequency required to maintain this level of measurement uncertainty.
- (b) *Supplemental Project Specific Requirements for Monitoring Equipment for Offset Projects.* An Offset Project Operator must put in place all

- monitoring equipment or mechanisms required by a Board approved offset quantification methodology for that offset project type.
- (c) *General Requirements for Reporting for Offset Projects.* An Offset Project Operator will report the following information within 6 months of the end of the first calendar year after which the GHG emissions reductions, avoidances or sequestration takes place:
- (1) activity baseline;
 - (2) emission reductions; and
 - (3) [Placeholder]: Provisions to be developed.
- (d) *Supplemental Project Specific Requirements for Reporting for Offset Projects.* An Offset Project Operator must report to ARB any information required by a Board approved offset quantification methodology for that offset project type (could include underlying data used to quantify reductions).
- (e) *Requirements for Record Retention for Offset Projects.* An offset project operator must retain documents related to the design, development and maintenance of an offset project in paper, electronic or other usable format for 10 years following submission of each year's emission reduction data report. The retained documents must be sufficient to allow for the verification of each year's emission reductions. Upon request by ARB the Offset Project Operator must provide within 15 days to ARB all documents including data used to develop an emission reduction data report.

§ 96300. Verification of GHG Reductions, Avoidances or Sequestrations from Offset Projects

- (a) *General Requirements.* For an offset project that has been registered by ARB the Offset Project Operator must submit verification statements, prepared by a verification body accredited by ARB.
- (b) *Schedule for Verification.* The verification of GHG emission reductions, or avoidances, or GHG sequestration must be performed no less than annually and no more than every 6 years.

- (c) *Verification Statement Requirements.* A verification statement from an ARB accredited verification body must be received by ARB for the issuance of offset credits.
- (d) *Timing for Submittal of Verification Statements to ARB.* The verification statement must be received by ARB within the first 6 months of the current calendar year for the verification of GHG emission reductions or avoidances, or GHG sequestration for the previous calendar year.
- (e) *General Offset Verification Requirements*

Discussion of Concept – General Offset Verification Requirements

The process for verification of offset projects would be similar to the process described in Section 95131 of the mandatory reporting requirements. Additional requirements for general offset verification will be added to the mandatory reporting requirements to support the offsets system in Spring 2010, such as verification of activity baselines.

- (f) *Supplemental Project Specific Verification Requirements.* In addition to the verification requirements in this section, GHG emission reductions, avoidances, or GHG sequestration resulting from an offset project must meet any verification requirements for an offset project of that type if specified in the offset quantification methodology approved by the Board pursuant to Section 96230.

§ 96310. Verifier and Verification Body Accreditation

Discussion of Concept – Accreditation of Offset Verifiers

Requirements for verifiers and verification bodies of offset project reductions would be similar to those described in Section 95132 of the mandatory reporting requirements. Additional requirements for accreditation may be added to the mandatory reporting requirements to support the offset system in Spring 2010, including requirements that specific offset project types require a verifier specialized in that particular activity or sector.

§ 96320. Conflict of Interest for Offset Projects

Discussion of Concept – Conflict of Interest Requirements for Offset Projects

Conflict of interest requirements for offset projects would be similar to those described in Section 95133 of the mandatory reporting requirements. Additional requirements for conflict of interest for offset projects may be added to the mandatory reporting requirements in Spring 2010.

§ 96330. General Requirements for Issuance of Offset Credits by ARB

- (a) One offset credit will be issued to an Offset Project Operator by ARB for each ton of CO₂e that the Executive Officer determines has been reduced, avoided, or sequestered during the period covered by a verification statement submitted pursuant to Section 96300(c), only if:
- (1) ARB has registered the offset project pursuant to Sections 96260 or 96280; and
 - (2) the relevant GHG emission reductions or avoidances, or GHG sequestration have already occurred and been verified during the relevant offset project crediting period.

§ 96340. Issuance of Offset Credits in an Initial Crediting Period

An offset project registered in an initial crediting period may only be issued an offset credit by ARB for the duration of the initial crediting period and according to the Board approved offset quantification methodology for that particular offset project type at the time of registration of the offset project.

§ 96350. Issuance of Offset Credits in a Renewed Crediting Period

An offset project registered in a renewed crediting period may only be issued an offset credit by ARB for the duration of the renewed crediting period and according to the Board approved offset quantification methodology for that particular offset project type at the time of registration of the offset project.

§ 96360. Issuance of Offset Credits by ARB

- (a) An offset credit will be issued by the Executive Officer to the Offset Project Operator no later than 30 working days after a verification statement for those reductions is accepted by ARB. The Executive Officer will issue one offset credit for every ton that is verified pursuant to Section 96300.
- (b) *Notice of Determination of Issuance of Offset Credits.* Not later than 30 days after determination is made by the Executive Officer for the issuance of offset credits, the Offset Project Operator will be notified by ARB of the issuance of offset credits and the amount thereof.
- (c) *Receipt of Offset Credits.* Within 14 working days of notice of determination of issuance of offset credits, ARB will transfer the offset credits into the Offset Project Operator's Holding Account.

§ 96370. Registration of Offset Credits Issued by ARB

- (a) An offset credit issued by the Executive Officer will be registered by:
 - (1) creating an ARB unique serial number; and
 - (2) transferring the serial number to the Holding Account of the registered Offset Project Operator.

§ 96380. Ownership and Transferability of Offset Credits Issued by ARB

Initial ownership of an offset credit will be with the registered Offset Project Operator. An offset credit issued by ARB may be sold, traded, or transferred, unless the offset credit has been retired or used to meet a surrender obligation in any system.

§ 96390. Cancellation of Offset Credits

- (a) If ARB determines that an offset credit issued or approved by ARB is invalid after it has been used, the offset credit will be cancelled in the tracking system and removed from any Holding or Compliance Account. If the cancelled offset credit has been used to meet a surrender obligation

under this article, the user of that offset credit must replace each ton of CO₂e with another compliance instrument.

- (b) An offset credit could be determined to be invalid if a failure in the monitoring equipment or verification process is determined after the issuance of offset credits.

Discussion of Concept – Reversals of Offset Credits

ARB staff is evaluating enforcement and assessment of penalties that might be imposed if an offset credit is reversed or found to be invalid after issuance or acceptance by ARB. ARB's preferred approach would be to require the covered entity using the flawed offset credit to meet its surrender obligation by making the system whole and replacing the lost tons. The covered entity would then take recourse with the Offset Project Operator through contracts. Staff expects covered entities to enter into "make whole" contracts with offset suppliers so that the market appropriately values offset quality. This is already being observed in the voluntary offsets market.

Placing the point of enforcement on covered entities removes incentives for them to seek deficient offset credits, which should cost less. Placing the point of enforcement on offset project developers enhances the incentive.

No matter where the point of enforcement is placed, ARB has the legal authority to take action against California covered entities, first deliverers, offset project developers, and third-party verifiers. There may be practical limits in taking action against out-of-state entities and opt-in participants.

§ 96400. Offset Credits Issued by External Programs

- (a) In order to be used to satisfy a requirement under this article, offset credits issued by an external program must:
- (1) represent a GHG emission reduction or avoidance, or GHG sequestration that is real, additional, quantifiable, permanent, verifiable and enforceable;
 - (2) be issued for an offset project with an offset project commencement date after December 31, 2006; and
 - (3) be issued by an external program that has been approved by the Board as provided in Subarticle 12.

(4) [Placeholder]: Provisions to be developed.

Discussion of Concept – International Offset Credits and Sector-Based Crediting

The Scoping Plan committed California to working at the international level to reduce GHG emissions globally and finding ways to support the adoption of low-carbon technologies and sustainable development in the developing world.

To help achieve these goals, the Scoping Plan proposes to allow covered entities to use a limited number of offset credits to meet their surrender obligations under the cap-and-trade system. Allowing offset credits internationally will both foster GHG emission reductions in developing countries and control the costs of compliance.

Currently the international community is discussing and planning the development of a sector-based crediting mechanism to achieve emission reductions in the developing world. Sector-based crediting systems can increase participation in international efforts to control GHGs, and also help concerns about international competitiveness and emissions leakage by providing a more level playing field for some internationally competitive sectors.

In developing regulatory provisions for international offsets, ARB staff is considering how international offsets could affect carbon prices and innovation in California. Staff has been following the progress of the international negotiations leading up to the fifteenth Conference of the Parties (COP 15) to the United Nations Framework Convention on Climate Change (UNFCCC) in Copenhagen, as well as the development of the European Union Emissions Trading Scheme (EU ETS) Phase 3 in order to learn from others that are grappling with the same issues as California. Staff will consider the outcomes of COP 15 in developing regulatory provisions for the use of international offsets in the California cap-and-trade system.

Further, in exploring and participating in discussions with the international community, California is hoping to design a model international offsets program that will pave the way for the post-2012 international climate change agreement, which is the target of COP 15. The version of federal climate change legislation that passed the U.S. House of Representatives earlier this year recognizes early offsets from state approved programs, as does proposed language in the U.S. Senate. High-quality California-approved international offsets may eventually have value in a future federal program.

Currently, the primary mechanism for generating international offsets in the world is the Clean Development Mechanism (CDM) under the Kyoto Protocol. GHG emission reduction projects completed under the CDM generate Certified Emission Reductions (CERs), issued by the intergovernmental CDM Executive Board. CERs can be used as compliance offsets by entities regulated under cap-and-trade programs. While the CDM has created a vibrant market for international offsets, its project-based approach has not fostered significant policy changes in developing countries. Further, some questions have been raised about the sustainability and additionality of certain projects and project types.

As a result, the international community is discussing and planning the development of new sector-based crediting mechanisms to replace or reform the CDM. These mechanisms would allow developing countries, or their states or provinces, to generate credits for GHG emission reductions achieved across specific climate-related sectors, such as cement, iron and steel, and power generation. Credits could be sold for use as compliance offsets under cap-and-trade programs, much as CERs are today.

Sector-based crediting mechanisms are intended to “scale up” levels of support to developing countries and achieve greater emission reductions by fostering broader changes, such as higher environmental standards for facilities, across covered sectors. In this way, they can help reduce concerns about international competitiveness and provide a more level playing field in internationally competitive sectors. By focusing at the sectoral-level, rather than on individual projects, these mechanisms also will better ensure additionality and reduce emissions leakage between facilities in a way that the CDM cannot.

Given these advantages, California would like to utilize a sector-based crediting mechanism for international offsets, and move beyond project-based systems like the CDM. A number of requirements must be met before such a mechanism can be established, however.

First, a sector-based crediting system requires a crediting baseline, which could be an absolute GHG emission level, intensity target (GHG emissions per unit of production), or technology standard. To ensure additionality, this baseline must be established below the projected business-as-usual performance level for the target sector. Establishing baselines will require data collection and technical analysis as well as negotiations with the responsible developing country, or its state or province, to arrive at a proper level that ensures additionality.

Second, under a sector-based crediting mechanism credits are earned based on the GHG emissions reduced beyond the established baseline for the sector. In the case of an absolute GHG emissions target, credits are equivalent to the additional tons of GHG emissions reduced beyond the baseline. In the case of an intensity target or technology standard, the quantity of GHG emissions must be calculated based on the reduced emissions per unit of production or compared to those that would have occurred without installation of cleaner technologies, respectively. No credits may be earned until the crediting baseline is reached and surpassed. To ensure that this precondition is met, it is essential that adequate monitoring, reporting and verification (MRV) systems be in place. Developing cooperative Memorandums of Understanding (MOUs) for verification and enforcement with the developing countries participating in the sectoral programs will be especially important for California since sectoral activities will occur beyond the state's borders.

Some options for enabling cooperative MOUs for enforcement is to establish a joint MRV program between California and interested developing country states or provinces. For example, an MRV committee could be established in the developing country, state, or province that could include some California representatives to help guide the process and establish the rules. Once the crediting baseline is reached, there could also be third party independent

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verification to ensure reductions achieved beyond the crediting baseline are real, additional, quantifiable, permanent, verifiable and enforceable.

Third, in order to reach the crediting baseline, the developing country, or its state or province, would need to employ policies and measures designed to achieve it. Currently many developing countries lack the capacity to institute the policies and measures necessary to support a sector-based crediting mechanism. Thus, it will be important for California to encourage and support early capacity building in these countries. In the short-term, opportunities may exist at the subnational level with more progressive and advanced states and provinces in developing countries that are able to build their capacities more quickly. California is interested in exploring these prospects and ways in which working at the subnational level might help build capacity for eventual sector-based crediting mechanisms in developing countries at the national level.

Finally, in order for sector-based crediting mechanisms to succeed, it will be important to engage the private sector. To generate credits, individual facilities must reduce their emissions, but crediting will not occur until the entire sector, which may cover many different facilities, meets its established baseline. Further, once the crediting baseline is achieved, credits will accrue to the developing country, or its state or province, rather than to the facilities directly. Thus, the private incentive to reduce emissions will be muted without appropriate policies. Such policies must be structured to incentivize individual facilities (and international investors) to reduce their GHG emissions. This could potentially be achieved through policies that ensure crediting baselines are met and providing for profit-sharing once that occurs. Domestic enforcement of policies needed to meet crediting baselines is essential for crediting certainty and to facilitate private funding for emission reduction projects.

While California wants to foster and support policy change in developing countries through sector-based crediting mechanisms, these mechanisms are still being developed internationally, and may not be ready when the California cap-and-trade program begins in 2012. Because appropriate cost control mechanisms will be needed for regulated entities at the outset of the program, an early supply of international offsets may be needed from other sources. In order to establish an early supply, ARB staff is considering allowing entities to use a limited amount of CERs issued under the CDM, or other approved project-based credits from other systems, for compliance purposes for a limited period of time. Other limitations could apply in regards to project types or geographic areas to ensure that these offsets meet additionality requirements and provide sustainable development benefits. For example, offset projects in least developed countries, which are likely to be both additional and sustainability-enhancing, should be encouraged. Project-based credits could be phased out over time as sector-based crediting mechanisms become more widely available.

California International Forestry Efforts: Deforestation accounts for approximately 20 percent of global GHG emissions. In 2008, at the Governors' Global Climate Summit, California along with the states of Illinois and Wisconsin entered into a Memorandum of Understanding (MOU) with states in Brazil and Indonesia to cooperate on a range of forest sector activities. These activities include Reducing Emissions from Deforestation and Degradation in Developing

Countries (REDD), sequestration of additional carbon through the restoration and reforestation of degraded lands and forests, and through improved forest management practices. Pursuant to this MOU, California along with the states of Illinois and Wisconsin are working with states and provinces in the Brazilian Amazon (Para, Mato Grosso, Amazonas, Amapa) and Indonesia (Aceh and Papua) to continue to build capacity to reduce emissions from the international forest sector. ARB is working to determine how to fit international forestry efforts into the overall framework of the cap-and-trade program.

§ 96410. Requirements for Offset Credits Issued by an External Program for Projects Located in the United States or Canada

- (a) The approval of an offset credit issued to projects located in the United States or Canada will be determined by ARB based on the evaluation of the criteria consistent with those in this section.
- (b) *General Requirements.* ARB will approve an offset credit issued to an offset project located in the United States or Canada if the external program issuing the offset credit has been approved by the Board pursuant to Subarticle 12.
- (c) *Determination for Approval of Offset Project Types for Offset Projects Located in the United States or Canada.* The Board will approve offset project types for offset projects located in the United States and Canada, after public notice and opportunity for public comment. The Board will not approve project types for the United States and Canada that reduce emissions covered by the cap-and-trade program.
- (d) *Agreement.* An offset credit issued by an external program for an offset project located in the United States or Canada may be approved by ARB if a cooperating regulatory agency from the state or province has entered into a MOU with California to carry out certain obligations relative to offset projects located in their jurisdiction. This includes, but is not limited to, the obligation to perform audits of offset project sites, and to report and enforce against violations of this subarticle.
- (e) *Retirement Offset Credits Issued to Projects Located in the United States or Canada.* When an offset credit issued to projects located in the United

States or Canada is approved for use under this article, ARB will work through MOUs, arrangements or technical cooperation with the country, state, province or program that issued the offset credit to ensure that such body:

- (1) is notified of ARB's retirement; and
- (2) provides for the disqualification of the offset credit for subsequent use in any program.

§ 96420. Requirements for Offset Credits Issued by an External Program for Projects Located in Developing Countries

- (a) The approval of an offset credit issued to projects located in a developing country will be determined by ARB based on the evaluation of the criteria consistent with those in this section.
- (b) *General requirements.* ARB may approve a developing country offset credit if:
 - (1) the offset project is located in a developing country;
 - (2) the country, state or province, or international program issuing the developing country offset credit is approved by the Board pursuant to Subarticle 12; and
 - (3) the particular offset project type has been approved by the Board.
- (c) *Offset Projects Located in Least Developed Countries.* Preference will be given to the approval of offset credits from offset projects located in least developed countries as defined by the United Nations.
- (d) *Determination for Approval of Developing Country Offset Project Types.* The Board may approve offset project types for offset projects located in a developing country after public notice and opportunity for public comment. Preference will be given to project types with a high sustainable development value.
- (e) *Agreement.* An offset credit issued by an external program for an offset project located in a developing country may be approved by ARB if a cooperating regulatory agency from the country, state or province has

- entered into a MOU with California to carry out certain obligations relative to offset projects located in their jurisdiction. This includes, but is not limited to, the obligation to perform audits of offset project sites, and to report and enforce against violations of this subarticle.
- (f) *Retirement of Offset Credits Issued for Projects Located in a Developing Country.* When an offset credit issued for a project located in a developing country is approved for use under this article, ARB will work through MOUs, arrangements or technical cooperation with the country, state, province or program that issued the offset credit to ensure that such body:
- (1) is notified of ARB's retirement under this article; and
 - (2) provides for the disqualification of the developing country offset credit for subsequent use in any program.

§ 96430. Requirements for Sector-Based Crediting

- (a) The approval of a sector-based credit will be determined by the EO based on the evaluation of the criteria consistent with those in this section.
- (b) *General Requirements.* The EO may approve a sector-based credit if:
- (1) the credit is generated in a developing country;
 - (2) the country, state, province or program issuing the sector-based credit is approved by the Board pursuant to Subarticle 12; and
 - (3) the country, state, province or program issuing the sector-based credit has implemented substantive and procedural requirements for the relevant sector that provide equal or greater assurance of the integrity of such sector-wide GHG reductions or avoidances, or GHG sequestration as is provided by the requirements for other offset credits approved under this article.
- (c) *Determination for Approval of Sectors.* The Board may approve a sector of a specific developing country, or state or province in such country, after

public notice, opportunity for public comment and evaluation based on the following criteria:

- (1) the homogeneity of sources within the relevant sector;
 - (2) the ability to establish a credible projection of business-as-usual GHG emissions and associated baseline for sector-based crediting of the relevant sector;
 - (3) the capability of accurately measuring, monitoring, reporting, and verifying the performance of sources across the relevant sector;
 - (4) the degree to which the relevant sector provides products or services that are sold in an international market and/or contributes GHGs to the atmosphere; and
 - (5) the risk of emissions leakage in the relevant sector is greater if an international offset credit is issued on an individual project basis.
- (d) *Crediting Baseline for Sector-Based Crediting.* A quantitative crediting baseline must be established for a sector approved by the Board, using the following criteria:
- (1) the crediting baseline must either be an absolute GHG emissions level, a GHG emissions intensity level calculated as GHG emissions per unit of production, or a technology standard;
 - (2) in the case of an absolute GHG emissions level, the crediting baseline for the relevant sector must be established at a lower level of GHG emissions than would occur under a business-as-usual scenario;
 - (3) in the case of a GHG emissions intensity level, the crediting baseline for the relevant sector must be established at a lower level of GHG emissions per unit of production than would occur under a business-as-usual scenario, and it must be possible to calculate specific quantities of GHG emissions abated as a result of reduced GHG emissions intensity below this crediting baseline;
 - (4) in the case of a technology standard, the crediting baseline must be established at a higher technology standard or higher percentage of

- adoption of a particular technology in the sector than would occur under a business-as-usual scenario, and it must be possible to calculate specific quantities of GHG emissions abated as a result of adoption of technology above this crediting baseline;
- (5) to set the crediting baseline, the country, state, province or international program issuing the sector-based credit must take into account the relevant current and historical trends in the sector as well as domestic and international policies or incentives to reduce GHG emissions, sequester GHG, or improve technology adoption; and
 - (6) the additionality and the performance of the sector will be based on the crediting baseline established under this subsection.
 - (7) [Placeholder]: Provisions to be developed.
- (e) *Agreements for Sector-Based Crediting.* ARB must establish a MOU with the jurisdiction in which the GHG reduction activities occur, which will specify the quantification and issuance of sector-based credits. ARB will work through an agreement, arrangement or technical cooperation with an approved developing country or state or province in such country to ensure that such program:
- (1) is notified of ARB's approval of its crediting program;
 - (2) provides appropriate enforcement provisions including verification of GHG emissions and GHG emission reductions, sufficient tracking and registration systems and related infrastructure that will record and track GHG emissions and GHG emissions reductions; and
 - (3) provides for the disqualification of credits issued by that system for subsequent use under any system whether such use is a sale, exchange, or submission to meet a surrender obligation in any GHG ETS.

Subarticle 14. Enforcement and Penalties

Discussion of Concept – Enforcement and Penalty Provisions

ARB is committed to developing enforcement efforts and penalty-setting mechanisms sufficient to deter non-compliance. At a stakeholder meeting on March 23, 2009, ARB reviewed existing penalty setting authority and options for setting penalties, as well as penalty systems used in other emissions trading programs. ARB is continuing to explore these options and will welcome stakeholder comments as staff designs specific language.

ARB expects to add provisions to this subarticle to specify particular enforcement provisions for separate requirements in the regulation. These provisions would include methods for calculating the number of violations and consequences for non-compliance. ARB is trying to find a combination of penalty levels and number of violations that would deter non-compliance by removing any economic benefits of non-compliance.

For example, ARB is considering whether to specify that the transfer or surrender of each compliance instrument is a separate transaction with the effect that any non-compliance with the rules for transferring ownership of compliance instruments or for surrendering instruments at the end of the compliance period would result in a number of violations equal to the number of allowances and offsets involved.

Another possible addition may be to Subarticle 7 to specify that a the requirement for surrender of compliance instruments would be to include a multiplier so that if the surrender deadline is missed, the entity would be required to surrender more allowances than it would if it had met the deadline. ARB is interested in receiving comments on these concepts and other possible approaches to scaling the number of offenses or amount of the penalty to the nature of the non-compliance.

§96500 Jurisdiction.

Any of the following actions conclusively establishes a person's consent to be subject to the jurisdiction of the State of California, including but not limited to the administrative authority of ARB and the jurisdiction of the Superior Courts of the State of California:

- (a) voluntary registration with ARB pursuant to Subarticle 5;
- (b) the purchase, ownership or holding of a compliance instrument issued by ARB;

- (c) receipt of compensation of any kind, including but not limited to sales proceeds and commissions, from any transfers of allowances or offset credits issued by ARB; or
- (d) certification or verification of an offset credit issued by ARB.

§96501 Authority to Suspend, Revoke or Modify

- (a) The Executive Officer may suspend, revoke, or place any reasonable restrictions on the Holding Account of an Opt-in participant determined to be in violation of any provision of this article.
- (b) The Executive Officer may place restrictions on a Holding Account of a covered entity determined to be in violation of any provision of this article or of article 2 of this subchapter.
- (c) The Executive Officer may suspend, revoke, or modify any Executive Order issued under this article or under article 2 of this subchapter, including but not limited to an order accrediting a verifier, for a violation of any provision of this article.

§96502 Injunctions

Any violation of this article may be enjoined pursuant to Health and Safety Code Section 41513.

§96503 Penalties

Penalties may be assessed pursuant to Health and Safety Code Section 38580 for any violation of this article.

§96504 Violations

- (a) Each day or portion thereof that any report required by this article remains unsubmitted, is submitted late, or contains incomplete or inaccurate information is a separate violation of this article;
- (b) Except as otherwise provided in this section, each day or portion thereof in which a violation of this article occurs is a separate offense;

- (c) The violation of any condition of an Executive Order that is issued pursuant to this article is a violation of this article.

Subarticle 15. Other Provisions

§ 96540 Severability, Effect of Judicial Order

Each provision of this article shall be deemed severable, and in the event that any provision of this article is held to be invalid, the remainder of this article shall continue in full force and effect.

§ 96550 Reserved Provisions

[Placeholder]: Provisions to be developed.

**Subchapter 10, Article 2, Sections 95100-95199 – Amendments
to Regulation for the Mandatory Reporting of Greenhouse Gas
Emissions**

**Amendment to the Regulation for
The Mandatory Reporting of Greenhouse Gas Emissions**

The Regulation for the Mandatory Reporting of Greenhouse Gas Emissions was approved by the Board on December 6, 2007 and became effective on January 1, 2009. The practice of amending the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions is to support the reporting requirements set forth in the proposed Article 5: California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms. Six documents are attached here to facilitate discussions of the amendment of the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions:

- Attachment 1.** Anticipated Changes to Reporting: A bulleted list of areas that are expected to change, with preliminary draft language for enforcement section .
- Attachment 2.** Draft Table of Contents for the Revised Mandatory Reporting Regulation
- Attachment 3.** Preliminary Draft Amendments to Section 95107, Enforcement
- Attachment 4.** A tentative calendar for the public process
- Attachment 5.** Evaluation of the Relationships between Emissions Quantification, Scope and Points of Regulation for the cap-and-trade program: A description of what considerations will be examined for inclusion of an emissions source within the scope of the cap-and-trade program.
- Attachment 6.** Detailed Scope Table: Describes preliminary staff thinking on which emissions generate a surrender obligation, includes proposed additional sources, pollutants, and potential thresholds that would be included in the MRR revisions.

Attachment 1. Anticipated Changes to California's Regulation for the Mandatory Reporting of Greenhouse Gas Emissions to

Support the Proposed Cap-and-Trade Regulation

- ◆ ARB staff will propose modifying the reporting threshold to be based on CO₂ equivalent emissions (CO₂e), rather than the current CO₂ only emissions.
- ◆ ARB staff will propose lowering the reporting threshold to 10,000 metric tons CO₂e, rather than the current 25,000 metric tons CO₂, only to monitor emissions below the facility cap threshold. Third-party verification would not be proposed for facilities emitting between 10,000 MT and 25,000 MT CO₂e.
- ◆ ARB staff will propose annual verification of emissions data reports for all facilities above the cap threshold of 25,000 MT CO₂e. Third-party verification would not be proposed for emissions data reports for facilities below the cap threshold.
- ◆ ARB staff will propose requirements for additional reporting of industrial process and fugitive emissions, and for reporting of emissions by upstream suppliers of fuels and industrial gases. Quantification methods for combustion sources will be consistent by fuel type rather than dependent on industrial sector.
- ◆ Electricity sector reporting requirements will be revised, in consultation with the California Public Utilities Commission and the California Energy Commissions, to facilitate reporting by first deliverers. Requirements developed for a load-based point of regulation will be modified to be consistent with the first deliverer approach. Changes to emissions distribution requirements for cogeneration systems may be proposed.
- ◆ The deadlines for reporting and verification are subject to change based on market needs and reporting deadlines. The amount of time between reporting and verification deadlines is likely to be reduced to facilitate timely allowance settlement.
- ◆ To reduce duplicative reporting, ARB will work with U.S. EPA to facilitate a single reporting mechanism to satisfy both state and federal mandatory reporting requirements. ARB staff may propose changes to California's reporting requirements to make them consistent with the final federal rule for GHG reporting. Some options in the federal rule may be limited to

assure consistency and rigor in emissions accounting for the cap-and-trade program.

- ◆ Additional changes to general provisions, definitions, quantification methods, and verification requirements will be considered to assure the reporting regulation provides the consistency and rigor needed to support the cap-and-trade program.

- ◆ Finally, ARB plans to revise the existing enforcement language in Section 95107 to provide more comprehensive rules about how the number of violations will be calculated, with the goal of ensuring adequate data collection and accurate and timely reporting and verification. Preliminary draft language containing some of the amendments under consideration for this section is presented below.

Attachment 2. Draft Table of Contents for Revised Mandatory Reporting Regulation

*[Subarticles and sections in italics will be considered for addition in 2010.
Existing sections would contain revised language.]*

Subchapter 10, Article 2, Sections 95100 to 95199, title 17, California Code of Regulations

Subarticle 1. General Requirements for Greenhouse Gas Reporting

95100	Purpose
95101	Applicability
95102	Definitions
95103	Greenhouse Gas Reporting Requirements
95104	Greenhouse Gas Emissions Data Report
95105	Document Retention and Record Keeping Requirements
95106	Confidentiality
95107	Enforcement
95108	Severability
95109	Incorporation by Reference

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

95110	Data Requirements and Calculation Methods for Cement Plants
95111	Data Requirements and Calculation Methods for Electricity Generating Facilities, <i>Electricity</i> Retail Providers, <i>and Electricity</i> Marketers
95112	Data Requirements and Calculation Methods for Cogeneration Facilities
95113	Data Requirements and Calculation Methods for Petroleum Refineries
95114	Data Requirements and Calculation Methods for Hydrogen Plants
95115	Data Requirements and Calculation Methods for General Stationary Combustion Facilities

Subarticle 3. Calculation Methods Applicable to Multiple Types of Facilities

95125	<i>Calculation Methods for Stationary Combustion</i>
95126	<i>Additional Calculation Methods</i>

Subarticle 4. Requirements for Verification of Greenhouse Gas Emissions Data Reports and Requirements Applicable to Emissions Data Verifiers

- 95130 Requirements for Verification of Emissions Data Reports
- 95131 Requirements for Verification Services
- 95132 Accreditation Requirements for Verification Bodies, Lead Verifiers, and Verifiers
- 95133 Conflict of Interest Requirements for Verification Bodies

Subarticle 5. Requirements for the Mandatory Reporting of Greenhouse Gas Emissions by Additional Types of Facilities

- 95140 *Data Requirements and Calculation Methods for Aluminum Production Facilities*
- 95141 *Data Requirements and Calculation Methods for Glass Manufacturing Facilities*
- 95142 *Data Requirements and Calculation Methods for Iron and Steel Production Facilities*
- 95143 *Data Requirements and Calculation Methods for Lime Manufacturing Facilities*
- 95144 *Data Requirements and Calculation Methods for Miscellaneous Uses of Carbonates*
- 95145 *Data Requirements and Calculation Methods for Nitric Acid Production Facilities*
- 95146 *Data Requirements and Calculation Methods for Oil and Natural Gas Systems*
- 95147 *Data Requirements and Calculation Methods for Pulp and Paper Manufacturing Facilities*
- 95148 *Data Requirements and Calculation Methods for Soda Ash Manufacturing Facilities*

Subarticle 6. Requirements for the Mandatory Reporting of Greenhouse Gas Emissions by Upstream Suppliers of Fuels and Industrial Gases

- 95170 *Data Requirements and Calculation Methods for Suppliers of Petroleum Products*
- 95171 *Data Requirements and Calculation Methods for Suppliers of Natural Gas and Natural Gas Liquids*
- 95172 *Data Requirements and Calculation Methods for Suppliers of Industrial Greenhouse Gases*
- 95173 *Data Requirements and Calculation Methods for Suppliers of Carbon Dioxide*

Attachment 3. Preliminary Draft Amendments to Section 95107, Enforcement

Discussion of Concept – Enforcement Section in Mandatory Reporting Regulation

ARB will amend the existing enforcement provisions in the reporting regulation as part of its adoption of a cap-and-trade program. In the existing regulation, Subsection 95107(a) was included to specify that each day in violation of Health and Safety Code Section 42402.4, which prohibits knowing submission of a false document with intent to deceive, is a separate violation. The existing regulation does not specify a calculation of daily offenses for other violations of the Health and Safety Code, such as submission of incorrect information without an intent to deceive. ARB intends to change this subsection so that all submissions of incorrect information – not just those covered in HSC Section 42402.4 – are computed as separate daily violations for as long as the false information remains uncorrected. This change will make the provision more consistent with other ARB regulations. This and other possible changes to more specifically delineate what constitutes a violation and how the number of violations are computed are set forth in the draft amendment language below.

In addition to the changes indicated in the regulatory text, ARB expects to consider additional provisions relating to calculation of the number of violations and penalties, and how violations and penalties will be applied to specific requirements in the reporting regulation. One of the ideas under consideration would specify that each metric ton of carbon dioxide equivalent that is emitted during a reporting year but not reported to ARB would constitute a separate offense under this article. ARB is interested in receiving comments on this concept or on other possible approaches to scaling the number of offenses or size of penalty to the magnitude of an entity's failure to report actual emissions.

§ 95107. Enforcement.

- (a) ~~SS~~ ~~Knowing~~ ~~Submission of false~~ ~~incorrect information, with intent to deceive,~~ to the Executive Officer or a verification body, ~~shall constitute a single, separate violation of the requirements of this article for each day in violation, after beginning on the day the false incorrect information is submitted has been received by the Executive Officer and ending on the day that all the information is corrected.~~
- (b) Failure to submit any report ~~by a deadline specified in this article or to include in a report all information required by this article,~~ or late submittal of any report, ~~shall constitute a single, separate violation of this article for each day or portion thereof after the deadline that the report has not been submitted beyond the specified reporting date. Failure to include in a report all information required by this article constitutes a separate violation of this article for each day beginning on the day the report is submitted and ending on the day the report is amended to include all required information.~~ For the purposes of this section, "report" means any emissions data report, verification opinion, or other ~~document~~ record required to be submitted to

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the Executive Officer by this article.

- (c) Each failure to measure, collect, record or preserve information needed for the calculation of emissions as required by this article or that this article otherwise requires be measured, collected, recorded or preserved constitutes a separate violation of this article, except to the extent such failure is specifically addressed in, and is consistent with, a procedure that has been approved by the Executive Officer pursuant to Section 95103(a)(10).
- (d) With respect to requirements of this article that are not described in Section 95107(a), (b) or (c), above, each day or portion thereof on which a violation occurs constitutes a separate offense.
- (e) Penalties may be assessed for any violation of this article pursuant to Health and Safety Code Section 38580.
- (f) Any violation of this article may be enjoined pursuant to Health and Safety Code Section 41513
- (g) The Executive Officer may revoke or modify any Executive Order issued pursuant to this article as a sanction for a violation of this article.
- (h) The violation of any condition of an Executive Order that is issued pursuant to this article is a violation of this article.

Note: Authority cited: Sections 38510, 38530, 38580, 39600, 39601 and 41511, Health and Safety Code. Reference: Sections 38530, 38580, 39600 and 41511, Health and Safety Code.

**Attachment 4. Tentative Calendar for Public Process:
2010 Revision of the California Mandatory Reporting Regulation**

January/February 2010: Workshops to present expected revisions to reporting requirements and collect public input.

Late March/Early April: Release of Draft Regulatory Language.

April/ May 2010: Workshops to discuss Draft Regulatory Language for GHG reporting requirements and collect public input.

Late August/Early September: Release of Regulatory Proposal, including Initial Statement of Reasons (Staff Report) for Cap-and-Trade Regulation and Modifications to the California Mandatory Reporting Regulation. Formal public comment period begins.

Thursday, October 21: Board considers Cap-and-Trade and revised Mandatory Reporting Regulations.

Attachment 5. Evaluation of the Relationships between Emissions Quantification, Scope and Points of Regulation for the AB 32 Cap-and-Trade Program

Issue Summary

ARB has held an extensive public process, in conjunction with the Western Climate Initiative (WCI), to determine which sources of emissions should be covered by the cap-and-trade program. Both the Scoping Plan and the WCI Design Recommendations contain a summary of the scope of the program.⁷

ARB needs greater detail to determine who is a covered entity in the program as we prepare the cap-and-trade regulation. ARB staff has compiled the attached table to provide a crosswalk between ARB's current mandatory reporting requirements, the WCI Essential Requirements of Mandatory Reporting, and the anticipated changes to ARB's Mandatory Reporting Regulation to support the scope of the cap-and-trade program as presented in this PDR.⁸

We are providing this discussion to explain the preliminary staff thinking included in the attached table. Staff will continue to work with stakeholders to determine which emissions sources will be included in the scope of the cap-and-trade program.

Background on Scope and Point of Regulation Decisions for the Cap-and-Trade Program

The term 'scope' defines the greenhouse gas (GHG) emissions that are covered by the cap-and-trade program, including:

- The emissions sources that fall under the cap.
- The greenhouses gases that fall under the cap.
- The point(s) of regulation where the program would be enforced.

The "point of regulation" is a portion of the scope definition that identifies the covered entities that have the obligation to surrender compliance instruments (emission allowances or allowable offsets credits) equal to their GHG emissions.

⁷ **Climate Change Scoping Plan** page 31 (December 2008)

<http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm>

Design Recommendations for the WCI Regional Cap-and-Trade Program pages 1-3 (September 2008)

<http://www.westernclimateinitiative.org/the-wci-cap-and-trade-program/design-recommendations>

⁸ Information about ARB's mandatory reporting program for GHG emissions is available here:

<http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-rep.htm>

The WCI's **Final Essential Requirements for Mandatory Reporting** is available here:

<http://www.westernclimateinitiative.org/component/remository/Reporting-Committee-Documents/Final-Essential-Requirements-for-Mandatory-Reporting/>

Several key terms are used to describe the point of regulation:

- **Downstream, at the point of emission:** The point of regulation can be where the emissions occur, such as where coal is combusted. This point of regulation is typically referred to as “downstream.” Examples of downstream points of regulation include: (a) stationary source combustion of coal, natural gas, and oil; and (b) process and fugitive emissions from industrial facilities.
- **Upstream, where carbon enters the California economy:** The point of regulation can be at the point where carbon enters into the economy. This point is typically referred to as “upstream.” Examples of upstream points of regulation for fossil fuels include: (a) where natural gas is processed and upgraded to pipeline quality; (b) where oil products are refined or imported; and (c) where coal is mined. For some high global warming potential (GWP) gases (such as sulfur hexafluoride, SF₆), an upstream point of regulation may be the point at which the gas is manufactured.
- **Midstream:** The point of regulation can be between the upstream and downstream. This is referred to as midstream. Midstream regulation for fossil fuel may be where the fuel is distributed, examples include: (a) natural gas transmission pipelines; (b) natural gas local distribution companies (LDCs); and (c) gasoline and diesel terminal racks, fuel distributors or wholesalers.

From the scope and point of regulation definitions, any covered entity must be able to tell whether it has a surrender obligation under the cap, and which of its emissions are subject to this obligation.⁹ The attached detailed scope document compiles this information for all sources in a concise tabular form. Preliminary staff thinking on program scope is based on the principles discussed below.

Evaluating Quantification Methodologies for Inclusion in the Scope of the Cap-and-Trade Program

To ensure that the cap-and-trade program meets the AB 32 criteria of ‘quantifiable’, ARB staff developed the following principles for evaluating whether individual quantification methodologies are appropriate for calculating ‘surrender obligation’ within the scope of the cap-and-trade program¹⁰:

⁹ This discussion of scope is borrowed from the **WCI Draft Program Scope Recommendations** (March 2008). Available from:
http://www.midwesternaccord.org/Meeting%20material%20pages/Scope%20and%20Electricity%20Meeting%201/Draft_WCI_Scope_Recommendation.pdf

¹⁰ AB 32 requires that all Greenhouse Gas Emission reductions achieved be real, permanent, quantifiable, verifiable, enforceable, and additional.

- The quantification methodology provides accurate and consistent quantification of emissions across all reporters
- The methodology facilitates third-party verification
- The methodology is enforceable by ARB
- The methodology is related to a meaningful portion of the GHG emissions emitted by California
- The methodology facilitates implementation of the intended incentives of the cap-and-trade program
- Emissions can be cost-effectively measured or calculated and reported using the quantification methodology

Provide Accurate and Consistent Quantification of GHG Emissions

Emission accounting methodologies should provide an accurate measure of the current magnitude of GHG emissions from a source. Reliable methods must capture and incorporate the variability in key input parameters over the course of the reporting period. In addition, it is critical to the success of a cap-and-trade program that the methods provide the same level of accuracy of source emissions after emission reduction strategies have been implemented.

False emission reductions which could unintentionally result from a shift between alternate quantification methodologies must be avoided to the extent feasible.¹¹

In short, methods must accurately quantify both current and future emissions from a source. Wherever possible, reporters should use the same quantification methodology for each source to ensure consistency across reporting entities.

Provide Verifiable GHG Emissions Data

Consistent and reliable verification of all GHG emissions is an essential part of a viable regulatory cap-and-trade program. Participants must have confidence that a common metric is employed (i.e. a ton of carbon is a ton of carbon) as they buy and sell allowances. Reporting regulations must provide independent third party verifiers with the ability to confidently judge the veracity of facility emissions reports. Reporting regulations based on accepted quantification methods (e.g. ASTM, ISO) provide verifiers with a standard with which to objectively judge the validity of reported emissions. Consistent and accurate accounting requires that as little as possible is left to the verifier's subjective judgment.

¹¹ These emission reductions are sometimes labeled as 'paper reductions' because reductions appear to have resulted 'on paper' due to the accounting methodologies employed but no actual environmental benefit occurs.

Provide Enforceable Methodologies

Reporting regulations must be formulated and written to provide enforcement bodies with the ability to identify and potentially prosecute any infractions in facility emission reports. Reporting methods must provide concrete and unambiguous criteria against which the validity of the report may be judged.

Quantify Most Meaningful Sources of GHGs

In selecting the quantification methodologies that apply in the cap-and-trade program staff places a priority on methods that can be used in a consistent fashion across a variety of sources.

In addition, the point of regulation will be moved upstream for GHG sources that are difficult to regulate at the point of emission (e.g., combustion of transportation fuels in passenger vehicles). The result of this upstream regulation may lead to a decrease in accuracy or precision due to greater reliance on default emission factors rather than direct measurement at the emissions source. Also, upstream regulation may lead to different quantification methodologies for the same fuel type in different end uses.

Creation of the Correct Incentives to Motivate GHG Emissions Reduction

A trade-off may exist between striving for accuracy and precision in emission quantification and creating the correct incentives for low-lifecycle emissions from products with complex supply chains. This may be especially true where a significant portion of the emissions associated with delivering a product to the end consumer exist outside of California.

In general the cap-and-trade program has not taken a 'full lifecycle' accounting approach to emissions quantification. ARB may consider a form of lifecycle emissions accounting in some cases to create the correct incentives for a switch to low-lifecycle emissions products.

Cost-effectiveness

To balance accuracy with reporting costs we must consider the costs associated with any quantification methodology. An example is the frequency of fuel carbon content sampling. More frequent sampling increases accuracy of emissions calculations but also increases the costs of the specified quantification methodology.

Attachment 6.
Detailed Scope Table

Complying Entity Information	Emissions Source Description (GHG Type)	Current Staff Thinking: Generates a C&T Surrender Obligation?	In Current ARB Reporting Regulation?	Modification/Addition expected as part of ARB cap and trade regulation package?	In WCI Essential Reporting Requirements?	Other Current Staff Thinking
Narrow Scope Sources in Current ARB Reporting Regulation						
Stationary Combustion (Section 95115 in current ARB Reporting Regulation)						
Operators of All Facilities with Stationary Combustion Emissions						
Reporting Threshold			25 k/year CO2	Y	10 k/year CO2e	Recommend lowering to 10k/year CO2e
C&T Inclusion Threshold				Y		Recommend 25k/yr CO2e
	Stationary Combustion					Staff expects to propose modifications consistent with federal reporting requirements. Some quantification options may be limited to assure consistency and rigor in emissions accounting.
	Fossil Fuel Combustion (CO2)	Y	Y	Y	Y	
	Biomass-Derived Fuel Combustion (CO2)	N	Y	Y	Y	
	Fuel Combustion (CH4, N2O)	Y	Y	Y	Y	
Cement (95110)						
Cement Manufacturing Facility Operator						
Reporting Threshold			No Threshold	Y	10 k/year CO2e	Recommend setting at 10k/yr CO2e
C&T Inclusion Threshold				Y		Recommend 25k/yr CO2e
	Process					Staff expects to propose modifications consistent with federal reporting requirements. Some quantification options may be limited to assure consistency and rigor in emissions accounting.
	Clinker Production (CO2)	Y	Y	Y	Y	
	TOC Content (CO2)	Y	Y	Y	Y	
Electricity Generating Deliverers (95111a)						
Electrical Generating						

Complying Entity Information	Emissions Source Description (GHG Type)	Current Staff Thinking: Generates a C&T Surrender Obligation?	In Current ARB Reporting Regulation?	Modification/Addition expected as part of ARB cap and trade regulation package?	In WCI Essential Reporting Requirements?	Other Current Staff Thinking
Facility Operator						
Reporting Threshold			2.5 k/year CO2 and > 1 MW	Y	10 k/year CO2e	
C&T Inclusion Threshold				Y		Recommend 25 k/yr CO2e
	Process					Staff to review for consistency with federal reporting requirements, may propose modifications.
	Acid Gas Scrubbers (CO2)	Y	Y	?	Y	
	Fugitives					
	Coal Storage (CH4)	N	Y	?	Y	
	Cooling Units (HFCs)	N	Y	?	Y	
	Geothermal (CO2)	N	Y	?	Y	
	SF6 equipment	N	Y	?	N	Reporting requirements may defer to new SF6 regulation.
Electricity Importing Deliverers (95111b)						
First Jurisdictional Importing Deliverer (Retail Provider or Marketer)						
Reporting Threshold			No Threshold	?	No Threshold	Staff to consider threshold.
C&T Inclusion Threshold				Y		Recommend 25 k/yr CO2e
	Activity Downstream of Emissions					Staff to consider modifications as needed to support first jurisdictional deliverer point of regulation.
	Emissions Assigned to Imported Power Transactions (CO2, CH4, N2O)	Y	Y	Y	Y	
	SF6 equipment	N	Y	?	N	
Cogeneration (95112)						
Cogeneration Facility Operator						

Complying Entity Information	Emissions Source Description (GHG Type)	Current Staff Thinking: Generates a C&T Surrender Obligation?	In Current ARB Reporting Regulation?	Modification/Addition expected as part of ARB cap and trade regulation package?	In WCI Essential Reporting Requirements?	Other Current Staff Thinking
Reporting Threshold			2.5 k/year CO2 and > 1 MW	Y	10 k/year CO2e	
C&T Inclusion Threshold				Y		Recommend 25 k/yr CO2e
Include Distribution of Fossil CO2 to Electricity and Thermal Uses (per current regulation)?						Staff to consider changes to emissions distribution requirements to support cap-and-trade regulation and Scoping Plan objectives.
	Process					Staff to review for consistency with federal reporting requirements, may propose modifications.
	Acid Gas Scrubbers (CO2)	Y	Y	?	Y	
	Fugitives					
	Coal Storage (CH4)	N	Y	?	Y	
	Cooling Units (HFCs)	N	Y	?	Y	
	SF6 equipment	N	Y	?	N	
Petroleum Refining (95113)						
Refining Facility Operator						
Reporting Threshold			25 k/year CO2	Y	10 k/year CO2e	Recommend lowering to 10k/year CO2e
C&T Inclusion Threshold				Y		Recommend 25k/yr CO2e
	Process					Staff may propose modifications consistent with federal reporting requirements. Some quantification options may be limited to assure consistency and rigor in emissions accounting.
	Calciners (CO2)	Y	N	Y	N	
	Cat Cracking (CO2)	Y	Y	?	Y	
	Other Cat Regen (CO2)	Y	Y	?	Y	
	Process Vents (CO2, CH4, N2O)	Y	Y	?	Y	
	Asphalt production (CO2, CH4)	N	Y	?	Y	
	Sulfur Recovery (CO2)	Y	Y	Y	Y	
	Fugitives					

Complying Entity Information	Emissions Source Description (GHG Type)	Current Staff Thinking: Generates a C&T Surrender Obligation?	In Current ARB Reporting Regulation?	Modification/Addition expected as part of ARB cap and trade regulation package?	In WCI Essential Reporting Requirements?	Other Current Staff Thinking
	Wastewater (CH4, N2O)	N	Y	?	Y	
	Oil/Water seps (CH4)	N	Y	?	Y	
	Storage Tanks (CH4)	N	Y	?	Y	
	Equipment leaks (CH4)	N	Y	?	Y	
	Flares and destruction devices					
	Flares (CO2)	Y	Y	Y	Y	
	Destruction devices--low Btu gases (CO2)	Y	Y	Y	Y	
Hydrogen Production (95114)						
Hydrogen Production Facility Operator						
Reporting Threshold			25 k/year CO2	Y	10 k/year CO2e	Recommend lowering to 10k/year CO2e
C&T Inclusion Threshold				Y		Recommend 25k/yr CO2e
	Process					Staff may propose modifications consistent with federal reporting requirements. Some quantification options may be limited to assure consistency and rigor in emissions accounting.
	Process CO2	Y	Y	?	Y	
	Process Vent (CO2, CH4, N2O)	Y	Y	?		
	Sulfur Recovery (CO2)	Y	Y	Y	N	
	Flares and Destruction Devices					
	Flares (CO2)	Y	Y	Y	Y	
	Destruction devices--low Btu gases (CO2)	Y	Y	Y	N	

Complying Entity Information	Emissions Source Description (GHG Type)	Current Staff Thinking: Generates a C&T Surrender Obligation?	In Current ARB Reporting Regulation?	Modification/Addition expected as part of ARB cap and trade regulation package?	In WCI Essential Reporting Requirements?	Other Current Staff Thinking
Additional Narrow Scope Sources Under Consideration (Not in Current ARB Reporting Regulation)						
Aluminum Production						
Aluminum Manufacturing Facility Operator						
	Process CO2	Y	N	Y	Y	
Glass Production						
Glass Production Facility Operator						
	Process CO2	Y	N	Y	N	
Iron and Steel Production						
Iron and Steel Manufacturing Facility Operator						
	Process CO2	Y	N	Y	Y	
Lime Production						
Lime Production Facility Operator						
	Quick Lime Production (CO2)	Y	N	Y	Y	
Magnesium Production						
Magnesium Production Facility Operator						
	Process (cover gas) SF6, HFC-134a, FK 5-1-12, fluorinated GHGs, CO2	Y	N	Y	N	
Miscellaneous Uses of Carbonates						
Facility Operators Calcining Carbonates						
	Process CO2	Y	N	Y	N	

Complying Entity Information	Emissions Source Description (GHG Type)	Current Staff Thinking: Generates a C&T Surrender Obligation?	In Current ARB Reporting Regulation?	Modification/Addition expected as part of ARB cap and trade regulation package?	In WCI Essential Reporting Requirements?	Other Current Staff Thinking
Nitric Acid Production						
Nitric Acid Facility Operator						
	Process N2O	Y	N	Y	N	
Oil & Natural Gas Systems						
Oil and Gas Field Operators						
	Fugitive CH4	N	N	Y	N	
	CH4 from pipe blow downs	Y	N	Y	N	
Pulp and Paper Manufacturing						
Pulp and Paper Manufacturing Facility Operator						
	Recovery Furnace and Kiln Systems (fossil CO2)	Y	N	Y	Y	
	Recovery Furnace and Kiln Systems (bio CO2)	N	N	Y	Y	
	Wastewater treatment CH4	N	N	?	Y	
Soda Ash Manufacturing						
Soda Ash Manufacturing Facility Operator						
	Process CO2	Y	N	Y	N	
Suppliers and Recipients of Carbon Dioxide						
CO2 Supplier or Transfer Recipient						
	Fugitive CO2	?	N	Y	N	
Suppliers of Industrial GHGs						

Complying Entity Information	Emissions Source Description (GHG Type)	Current Staff Thinking: Generates a C&T Surrender Obligation?	In Current ARB Reporting Regulation?	Modification/Addition expected as part of ARB cap and trade regulation package?	In WCI Essential Reporting Requirements?	Other Current Staff Thinking
Producers, Importers and Exporters of N2O or Fluorinated GHGs						
	N2O, fluorinated GHGs	?	N	Y	N	
<p style="text-align: center;">INDUSTRIAL PROCESS EMISSIONS CATEGORIES IN THE FEDERAL REPORTING RULE THAT ARB DOES NOT INTEND TO INCLUDE IN CAP-AND-TRADE AND MANDATORY REPORTING REQUIREMENTS AT THIS TIME: Adipic Acid Production, Ammonia Manufacturing, Coal Mine Fugitive Emissions, Electronics Manufacturing, Ethanol Production, Ferroalloy Production, Food Processing, HCFC-22 Production and HFC-23 Destruction, Industrial Wastewater, Lead Production, Manure Management, Motor Vehicle Manufacturers, Municipal Solid Waste Landfills, Petrochemical Production, Phosphoric Acid Production, Silicon Carbide Production, Suppliers of Coal-Based Liquid Fuels, Titanium Dioxide Production, Zinc Production.</p>						
Fuel Deliverers*						
Natural Gas and Natural Gas Liquids						
Local Distribution Company						
Reporting Threshold						Recommend setting at 10k/yr CO2e
C&T Inclusion Threshold						Recommend 25 k/year CO2e
	Activity Upstream of Emissions					
	(a) Total NG deliveries by volume	Y	N	Y	N	
	(b) Deliveries to narrow-scope facilities	N, subtract from (a)	N	Y	N	
	(c) Non-combustion use of NG	N, subtract from (a)	N	Y	N	
	(d) Biomass-Derived NG deliveries (landfill- or digester-derived)	N	N	Y	N	

Complying Entity Information	Emissions Source Description (GHG Type)	Current Staff Thinking: Generates a C&T Surrender Obligation?	In Current ARB Reporting Regulation?	Modification/Addition expected as part of ARB cap and trade regulation package?	In WCI Essential Reporting Requirements?	Other Current Staff Thinking
	(e) LNG-derived deliveries	May have an additional obligation for upstream emissions from LNG liquefaction	N	?	N	
Interstate Pipelines	List of customers (and quantities delivered?)	N, used for reconciling narrow scope sources?	N	?	N	
End users from interstate pipelines	NG receipts	Y, if not already assessed for surrender obligation				
Transportation Fuels						
Refinery, blendstock importer, distribution terminal rack (TBD)						
Reporting Threshold						Recommend setting at 10k/yr CO2e
C&T Inclusion Threshold						Recommend 25 k/year CO2e
	Activity Upstream of Emissions					
	(a) CaRFG3 (gasoline) throughput/sales	Y	N	Y	N	
	(b) ULSD (diesel) throughput/sales	Y	N	Y	N	
	(c) Deliveries to narrow scope facilities with a surrender obligation for gasoline/diesel combustion	N, subtract from (a), (b)	N	Y	N	

Complying Entity Information	Emissions Source Description (GHG Type)	Current Staff Thinking: Generates a C&T Surrender Obligation?	In Current ARB Reporting Regulation?	Modification/Addition expected as part of ARB cap and trade regulation package?	In WCI Essential Reporting Requirements?	Other Current Staff Thinking
	(d) LCFS reporting for pathway emissions?	?	N	?	N	
Fuel Producers or Importers or Refineries (TBD)			N	Y	N	
Reporting Threshold						Recommend setting at 10k/yr CO2e
C&T Inclusion Threshold						Recommend 25 k/year CO2e
	Activity Upstream of Emissions					
	(a) Quantity and composition of biofuel produced/sold	?	N	?	N	
	(b) LCFS reporting for pathway emissions?	?	N	?	N	
Propane						
Propane Provider (TBD)						
Reporting Threshold						Recommend setting at 10k/yr CO2e
C&T Inclusion Threshold						Recommend 25 k/year CO2e
	Activity Upstream of Emissions					
	Emissions Assigned to Total LPG deliveries by volume	Y	N	Y	N	
Notes:						
* 'Broad Scope' Emissions = 'Narrow Scope' Emissions plus Emissions from 'Fuel Deliverers'						