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Clerk of the Board
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Sempra Energy Utilities Comments on Proposed 15-Day Changes to Mandatory Reporting Regulation

Dear Board Members:

Southern California Gas Company (SoCalGas) and San Diego Gas and Electric Company (SDG&E), collectively the Sempra Energy Utilities (SEu), appreciate the opportunity to submit these written comments concerning the Proposed 15-Day Modifications to the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (MRR), posted July 25, 2011. We thank the Air Resource Board (ARB) Staff for many of the changes to the regulation reflected in the 15-day modifications that considered stakeholder input, and also for the Staff's outreach efforts in developing these proposed modifications. SEu hopes to further the development of the MRR with these comments on the 15-day changes.

SoCalGas operates the nation's largest natural gas distribution utility which serves a population of 20.9 million through 5.8 million natural gas meters. SDG&E serves 3.4 million consumers through 1.4 million electric meters and more than 840,000 natural gas meters. SEu owns and operates natural gas and electric distribution facilities, electric generation, underground natural gas storage facilities, and natural gas transmission facilities.

Summary of Key Issues

Sempra Energy Utilities will discuss three major policy issues in this filing. These issues focus on treating California ratepayers fairly, supporting California utilities that have made good faith efforts to meet renewable energy regulations, and enabling regulations that meet California's greenhouse gas emission reduction regulations without unduly constraining the natural gas and electric delivery systems so critical to California's economic vitality.

Treatment of Out Of State Renewables: The first key issue is the treatment of some out-of-state renewable energy contracts entered into to meet California's renewable goals. As proposed, the Mandatory Reporting Regulation is not treating consumers fairly because it does not allow recognition of greenhouse gas reductions for some out-of-state renewable energy contracts. Such contracts fully comply with the Renewable Portfolio Standard and, accordingly, meet the GHG reduction objectives established by the State. The Regulation needs to be corrected to recognize

GHG reduction value of these out of state contracts. Our comments below provide solutions for correcting the Proposed 15-day Modifications so that customers are not required to pay twice for greenhouse gas reduction benefits.

Resource Shuffling: The second key issue is the definition of resource shuffling. As discussed in SEu's comments on the cap-and-trade regulation, the resource shuffling provisions as proposed in the 15-day modifications are vague and overly broad, violate the intent of the cap-and-trade regulation, create the Commerce Clause issues, and contradict CPUC requirements of utilities to undertake least cost dispatch. While restrictions may be needed, it is important to draft such restrictions in a manner that does not treat legitimate electricity market transactions as a crime. The definition of Resource Shuffling must be changed and we offer appropriate revisions in the discussion in these comments. In addition, because such extensive changes are needed, we recommend that ARB follow-up with a stakeholder process, including a workshop and additional comments, to further refine the rules to meet the disparate concerns of market participants.

Consistency with Federal Regulations: The third key issue is consistency with federal regulations. While the MRR incorporates various provisions of the U.S. Environmental Protection Agency (U.S. EPA) Final Rule on Mandatory Reporting of Greenhouse Gases, the language fails to subscribe to the fact that the EPA Final Rule is and has been subjected to frequent revision. SEu requests that ARB institute a process to amend the MRR in a timely manner to incorporate revisions to the U.S. EPA Rule. Accordingly, it is imperative that ARB recognize the need for, and establish, a dynamic process to manage inconsistencies of outdated greenhouse gas monitoring methods which even now exist between the ARB and U.S. EPA regulations.

This document is divided into two parts: detailed discussion and analysis of the issues mentioned above and, a section-by-section analysis of the MRR with Sempra Energy utilities' recommendations for clarification and changes needed to ensure accuracy and consistency within the regulations.

I. Key Issue 1 – Modifications to Treatment of Out-of-State Renewables

A. All Out-of-State Renewable Energy Developed Pursuant to California's Renewable Portfolio Standard (RPS) Should Have Zero GHG Emissions

The Mandatory Reporting regulation, as proposed, does not recognize the greenhouse gas (GHG) reduction benefits of certain renewable contracts entered into to meet California's renewable goals. Currently, the MRR provides no mechanism to account for the zero GHG attributes of certain out-of-state renewable energy, including, for example, out-of-state wind contracts that SDG&E has entered into. SEu appreciates the efforts of ARB to develop an alternate approach to out-of-state renewable resources in the 15-day modifications; however, the regulations as proposed in the 15-day modifications are still insufficient. As a result, SDG&E would be required to retire allowances for these renewable resources, which are otherwise counted as renewable by California law, and whose operation results in reduced GHG emissions by backing down generation of fossil resources. The State's renewable programs are already identified by ARB as one of the costliest GHG reduction measures and these costs should not be unnecessarily increased. It is only fair that SDG&E's customers receive credit for the GHG attributes that they have already purchased through their out-of-state renewable contracts and not be required to pay again for the GHG benefits.

a. California's Current RPS Program and it Prospective RPS program under SB x1 2 Both Recognize the GHG Emission Reductions Benefit of All Imported Electricity

Under California's current 20 percent Renewable Portfolio Standard (RPS) program, RPS-obligated load-serving entities (LSEs) must meet twenty percent of retail load with generation procured from renewable resources.[1] The RPS program permits procurement of renewable electricity from facilities located outside of California, and allows LSEs to apply this generation for RPS compliance, provided that certain requirements are met. In particular, the current statutory framework requires that energy be delivered into California in order to be RPS-eligible.

Out-of-state renewable generation may be delivered into California over a transmission path as a "firmed and shaped" contract structure or as "re-bundled" structure as previously approved by the California Energy Commission (CEC).[2] In the latter example, an LSE "rebundles" energy by purchasing bundled renewable generation -- *i.e.*, energy plus renewable energy credits (RECs) -- from a facility located outside California, immediately resells the energy (but not the RECs) to the seller, and "re-bundles" the RECs with conventional generation imported to California.

The California Public Utilities Commission (CPUC) has confirmed that such transactions, which it classifies as "REC-only" transactions, satisfy the requirements for RPS compliance and offer GHG reduction benefits. Indeed, the CPUC has specifically noted that "REC-only transactions in which the RPS-eligible energy does not serve California load provide to California consumers the general benefits of increased use of renewable energy, such as reduction in the emission of greenhouse gases . . . that accrue because RPS-eligible generation has occurred within the [Western Electricity Coordinating Council ("WECC"]."[3]

Thus, under the current RPS program, so long as the retail seller complies with the statute's delivery requirements and other regulations surrounding RPS eligibility, the conventional generation re-bundled with RECs and imported to California is treated as renewable.

The current RPS program will be modified in accordance with SB x1 2 as it expands to a 33 percent RPS. SB x1 2 grandfathers transactions approved under the original RPS framework;[4] it also continues to treat the "re-bundled" transactions described above as RPS-eligible.[5] Notably, SBx1 2 eliminates the delivery requirement and permits RPS-obligated LSEs to satisfy RPS compliance obligations with out-of-state RECs that are not re-bundled with conventional generation for import into California.[6]

[1] The 20% RPS Program is codified at California Public Utility Code §399.12. Recently adopted legislation, Senate Bill (SB) x1 2. increases this requirement to 33% by 2020. Senate Bill (SB) x1 2 (Stats. 2011, Ch. 1). SB x1 2 will become effective 90 days after the special legislative session has adjourned. The special legislative session is currently estimated to run through September 30, 2011. *See* Session Schedules, http://www.statescape.com/resources/sessions/sessionsnew.asp.

[2] CEC *Renewables Portfolio Standard Eligibility Guidebook* (3rd Ed., Jan. 2008), pp. 23-24, FN2.

[3] D.10-03-021, *mimeo*, p. 27.

[4] SB x1 2, Sec. 13.

[5] SB X1 2, Sec. 22 allows "firmed and shaped" resources and unbundled RECs to count towards RPS with some quantitative limitations..

[6] *Id*.

b. The Mandatory Reporting Regulation Would Negatively Impact SDG&E Ratepayers With Respect to Renewables Commitments Already Made

SDG&E has two wind contracts with projects that are currently producing energy in Montana (Glacier I and II) and has a signed contract to develop additional wind facilities in the same area (Rim Rock). SDG&E purchases a bundled renewable power product from the project owner and makes a simultaneous sale back of conventional power at the project's busbar. The CEC eligible firming-and-shaping method leaves SDG&E with the green attributes associated with the project. In 2013, SDG&E plans to re-bundle these green attributes with energy generated outside the State, but not in the Naturener Power Watch, the balancing authority area containing the wind energy. In fact, to our knowledge there are no fossil resources located within that balancing authority area. These projects are expected to generate 1.2 million MWh annually.

The proposed MRR would not recognize the GHG reducing impacts that these transactions have and would require SDG&E to obtain additional allowances associated with the amount of energy produced by these projects. Over the period to 2020, the treatment of out-of-state renewables in the 15-day modifications would add an additional $50 - $200 million dollars in ratepayer cost if ARB regulations are not revised to accurately account for these zero GHG renewable resources.[7]

The fact that these wind projects are in their own balancing authority, with no fossil resources located within the balancing authority, makes the replacement electricity requirements of the MRR impossible to meet. In addition, at least a third of the balancing authority areas in the WECC outside of California are small and controlled by a single entity and many control no load.[8] Therefore, the renewable energy will be subject to market power in many of these small balancing authorities.

c. The Mandatory Reporting Regulation Would Negatively Impact California Electricity Consumers With Respect of Future Out-of-State Renewable Energy Transactions That Meet RPS Requirements

Under SBx1 2, out-of-state renewable energy that is firmed and shaped, as well as renewable in which only unbundled RECs are sold to the retail seller would meet RPS requirements. Such transactions would result in a reduction of greenhouse gases, meeting the purpose and intent of both the RPS and AB32. However, under the cap-and-trade program and mandatory reporting regulation, some firmed and shaped transactions and all unbundled REC transactions would not be treated as reducing GHG emissions. Not only does this frustrate the purpose and intent of SBx1 2, which contemplated entities could engage in such transactions as a means of controlling the costs of program compliance, it violates the requirements of State law as discussed below.

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[7] Valued at the reserve price ($10/MT) and price ceiling($40/MT) escalated at 7 percent (5% plus 2% inflation), assuming emissions at the default emissions rate of 0.428 MT/MWh.

[8] http://www.wecc.biz/library/WECC%20Documents/Publications/Balancing%20Authorities.pdf

B. Legal Reasons For Further Modification of the 15-day Changes

ARB's treatment of out-of-state energy contradicts the legislative intent of the RPS program, which plainly recognizes the environmental benefits or imported generation and RECs.[9]

Under Section 399.12(f)(1) and (2) of the current RPS, so long as the retail seller complies with CEC delivery requirements and other regulations surrounding RPS eligibility, that electricity imported to California will be counted as renewable. Section 399.12 defines a "Renewable energy credit" as:

> "[A] certificate of proof associated with the generation of electricity from an eligible renewable energy resource, issued through the accounting system established by the Energy Commission pursuant to Section 399.13, that one unit of electricity was generated and delivered by an eligible renewable energy resource."[10]

Furthermore, the statute expressly recognizes both the renewable and the environmental attributes of a REC:

> "Renewable energy credit" includes all renewable and environmental attributes associated with the production of electricity from the eligible renewable energy resource . . ."[11]

Implementation of SB x1 2, the imminent successor to current statutory RPS law, will lead to modifications to the RPS program.[12] It is clear, as noted above, that the new legislation treats electricity imported to California as renewable, provided that delivery requirements and other regulations surrounding RPS eligibility are met.[13] Indeed, SBx1 2 goes further by allowing unbundled RECs to qualify in meeting RPS requirements. SB x1 2 incorporates the current RPS program's definition of RECs[14] and, also like the current RPS program, recognizes all renewable and environmental attributes attributed to RECs.[15] Indeed, the Legislature prefaces that SB x1 2 is

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[9] The State Legislature's intent that the requirements codified in §399.12 help achieve the GHG emissions reduction and RPS program goals is apparent upon reading §399.11 (Legislative Findings and Declarations), which states in part:

> "In order to attain a target of generating 20 percent of total retail sales of electricity in California from eligible renewable energy resources by December 31, 2010 . . . it is the intent of the Legislature that the commission and the State Energy Resources Conservation and Development Commission implement the California Renewables Portfolio Standard Program described in this article"

and

> "The development of eligible renewable energy resources and the delivery of the electricity generated by those resources to customers in California may ameliorate air quality problems throughout the state and improve public health by reducing the burning of fossil fuels and the associated environmental impacts and by reducing in-state fossil fuel consumption."

Pub. Util. Code §399.11(a), (c).

[10] Pub. Util. Code §399.12(f)(1) (2010), *renumbered as* Pub. Util. Code §399.12(e)(1) (2011).

[11] Pub. Util. Code §399.12(f)(2) (2010), *renumbered as* Pub. Util. Code §399.12(e)(2) (2011).

[12] The CPUC has initiated a rulemaking proceeding, R.11-05-055, to implement SB x1 2.

[13] SB X1 2, Sec. 22 (amending §399.16) adds caps for certain types of energy, but does not restrict their qualification as eligible energy. The specifics of this section still must be clarified.

[14] SB X1 2, Sec. 14 (amending §399.12)

[15] SB X1 2, Sec. 14 (amending §399.12)

designed to help California meet its "climate change goals by reducing emissions of greenhouse gases associated with electrical generation."[16]

The MRR uses the exact same definition of RECs as Section 399.12 and SB x1 2.[17] The MRR also references Section 399.12 to acknowledge that "a REC includes all renewable and environmental attributes associated with the production of electricity from an eligible renewable energy resource."[18] Despite these efforts at consistency, the MRR fails to recognize the GHG emission reducing attributes of rebundled energy outside the same balancing authority or any rebundled energy of non-variable renewable energy.[19] This refusal to recognize certain RECs' attributes directly conflicts with the state's statutory scheme and legislative intent.

When a statute confers upon a state agency the authority to adopt regulations to implement, interpret, make specific or otherwise carry out its provisions, the agency's regulations must be consistent, not in conflict, with the statute, and be reasonably necessary to effectuate its purpose."[20] The task of the reviewing court in such a case "is to decide whether the agency reasonably interpreted the legislative mandate."[21] While ARB is granted administrative deference when it is engaged in rulemaking, which requires a high degree of technical skill and expertise, it is never granted discretion to promulgate a regulation that is inconsistent with the governing statute.[22]

The cap-and-trade and mandatory reporting regulations do not deserve any administrative deference. First, ARB is internally inconsistent within the MRR when it states in one definition that all renewable and environmental attributes count towards a REC, but then refuses to recognize those attributes for certain RECs in a second definition.

Second, the cap-and-trade and mandatory reporting regulations contradict the California Legislature's clearly enunciated approach toward climate change controls. The legislative intent to recognize the environmental attributes of all RECs is explicitly stated in Section 399.12 and SB x1 2. Furthermore, ARB's own recognition of this principle is evident in its use of the same language, its reference back to Section 399.12, as well as it proposed Renewable Electricity Standard.[23] Therefore, ARB's refusal

[16] SB X1 2, Sec. 13 (amending §399.11).
[17] MRR, Article 5, §95802(a)(239). The Section defines "Renewable Energy Credit" or "REC" as:
"a certificate of proof, issued through the accounting system established by the California Energy Commission pursuant to Public Utilities Code Section 399.13, that one megawatt hour of electricity was generated and delivered by an eligible renewable energy resource. As specified in Public Utilities Code Section 399.12, Subdivision (g)(2), a REC includes all renewable and environmental attributes associated with the production of electricity from an eligible renewable energy resource . . ."
[18] MRR, Article 5, §95802(a)(239) (definition of REC).
[19] Examples of non-variable renewable energy include biomass and geothermal.
[20] *County of San Diego v. State of California*, 15 Cal. 4th 68, 100 (1997) (citing Cal. Gov. Code, § 11374); *Mooney v. Pickett*, 4 Cal.3d 669, 679 (1971) (same).
[21] *Id*.
[22] *Ont. Cmty. Found. v. State Bd. of Equalization*, 35 Cal. 3d 811, 816 (1984) (citing *Credit Ins. Gen. Agents Assn. v. Payne*, 16 Cal.3d 651, 657 (1976)).
[23] ARB's Renewable Electricity Standard, tentatively adopted in September, 2010, recognized the GHG reduction benefits of a 33% renewable standard and adopted a standard that treated as qualifying not only projects with energy delivered to the State, but also "An eligible renewable energy resource that meets all requirements of California's RPS program, excluding electricity delivery requirements, as determined by ARB." Thus, the ARB's own adopted regulations would have treated unbundled RECs as meeting its Renewable Energy Standard and, accordingly, contributing to GHG reductions. The ARB order explicitly directed staff to coordinate the use of RECs with the CPUC's TREC decision. However, that TREC decision was itself superseded by SBx1 2, which clearly defines the types of RECs that meet the

to recognize *any* of the GHG emissions reduction benefits of unbundled RECs when rebundled energy is outside the balancing authority contradicts the legislative scheme.

Third, ARB's interpretation of which RECs receive GHG zero emissions treatment is not reasonable. By refusing to recognize the environmental attributes of out-of-state renewable energy with replacement electricity outside a balancing authority or unbundled RECs, the MRR implies that GHG emission reductions performed outside of California are inferior to reductions performed in-state or in close proximity to California's borders. Such reasoning is factually incorrect and fails to understand that reducing GHG emissions anywhere in the WECC benefits California.

For all these reasons, the MRR's refusal to convey zero GHG emissions treatment for rebundled energy outside the same balancing authority for variable renewable energy and for all non-variable renewable energy is unreasonable and contradicts current (and future) statutory law and legislative intent.

C. Proposed Changes to the Mandatory Reporting Regulation 15-day Modifications

The ARB proposed modifications of the MRR are flawed by 1) allowing replacement power only for variable renewable resources, and 2) requiring the replacement power to be from the same balancing authority. There are three workable changes ARB should consider. The best alternative would be to eliminate the requirements that 1) replacement electricity apply only to variable renewable resources and 2) replacement electricity be from the same balancing authority. Instead, replacement electricity should be allowed for all renewable energy developed pursuant to the State's 33 percent renewable program. This approach would allow for the rebundling of RECs with any imports already approved by the CEC and CPUC. In addition, it would allow for future projects, including transactions using unbundled RECs, that may be consistent with the restrictions of the RPS program as modified by SB x1 2. This would result in replacement electricity being treated as having zero emissions, to reflect the fact that the underlying renewable is resulting in a backing down of emissions elsewhere in the region.

Commensurate with this structure, renewable power that is sold without RECs becomes "null power" and like unspecified power imported to California should be assigned a default GHG emission rate for any compliance obligation purposes. This approach would be consistent with the contractual terms of existing contracts and expectations of the parties who signed the contract. While that may create issues for linkage, it would be no different than dealing with existing long-term contracts developed before AB 32 that do not contemplate a GHG cost; the issue can be resolved as part of the linking process. Below is suggested language for the MRR to effectuate this approach; language required in the cap-and-trade program is contained in SEu comments on the cap-and-trade program 15-day modifications.

RPS program's objectives, including its GHG reduction objectives. Under the RES, an out of state renewable, whether firmed and shaped, directly delivered, or unbundled, would count toward the RES requirements. Since those requirements' sole purpose was to support AB32 requirements, those transactions should necessarily be treated as reducing GHG under the Cap-and-Trade and MRR regulations.

Modification of Definition of Replacement Electricity in MRR Section 95102(a) -

> (336) "Replacement electricity" means electricity delivered to a first point of delivery in California **in accordance with State Renewable Portfolio Standards** to replace electricity from ~~variable~~ **RPS-eligible** renewable resources in order to meet hourly load requirements. The electricity generated by the ~~variable~~ renewable energy facility and purchased by the first deliverer is not required to meet direct delivery requirements. ~~The physical location of the variable renewable energy facility busbar and the first point of receipt on the NERC E-tag for the replacement electricity must be located in the same balancing authority area.~~

A second approach would be to "grandfather" contracts entered into prior to the start of the cap-and-trade program and add more flexibility to ARB's approach to requiring replacement electricity to be from the same balancing authority. The latter provision would account for the fact that over one-third of balancing authorities in the WECC outside of California are small, single entity balancing authorities. With grandfathering, the regulation would state that for contracts entered into before the start of the cap-and-trade program, replacement power could be used consistent with CEC and CPUC approved rebundling. Such contracts would be supplied to ARB and for that list of contracts, the replacement power would not be required to be from the same or adjacent balancing authority, but from a source or sources approved by the CEC and/or CPUC. For grandfathered contracts, this would result in replacement electricity being treated as having zero emissions, to reflect the fact that the underlying renewable is resulting in a backing down of emissions elsewhere in the region.
The electricity from the renewable resource without the green attributes would be assigned the default rate and could not be used as a specified zero GHG resource. While this approach would at least protect consumers from being harmed by regulations that reduce the value of existing contracts, it would still potentially add unnecessary costs to the state's electric consumers since it would effectively eliminate the future ability to develop certain out of state renewable energy even though it would comply with the RPS and reduce overall GHG emissions. Accordingly, this second approach is a "second-best" solution. Proposed language to change the 15-day modification is shown below:

Modification of Definition of Replacement Electricity in MRR Section 95102(a) -

> (336) "Replacement electricity" means electricity delivered to a first point of delivery in California to replace electricity from ~~variable~~ **RPS-eligible** renewable resources in order to meet hourly load requirements. The electricity generated by the ~~variable~~ renewable energy facility and purchased by the first deliverer is not required to meet direct delivery requirements. The physical location of the ~~variable~~ renewable energy facility busbar and the first point of receipt on the NERC E-tag for the replacement electricity must be located in the same balancing authority area **, or if a balancing authority is small, an adjacent balancing authority, for contracts signed after the start of the cap-and-trade program. For contracts signed prior to the start of the**

<u>cap-and-trade program, replacement electricity must be delivered to California in accordance with State Renewable Portfolio Standards.</u>[24]

A third approach would primarily be an adjustment to the cap-and-trade regulation and would not require changes to the MRR definition of replacement electricity except to deal with small balancing authorities. The approach described more fully in the comments on the cap-and-trade program would adjust the cap upward in the cap-and-trade regulation to account for the zero GHG renewable resources that are not being counted as zero GHG under the cap-and-trade program and provide the free allowances to the electricity importer for that replacement electricity that is not counted as zero GHG under the MRR definition. This approach would be similar to one approach ARB has recommended for long-term contracts with no ability to pass on GHG costs; ARB recommended that generators in that situation receive free allowances or that the sellers and buyers renegotiate the contract terms to consider GHG costs. This approach would increase the program cap for renewable energy delivered and provide the allowances to the owner of the renewable attributes of the renewable energy.
For example, the SDG&E wind contracts will produce 1.2 million MWhs per year with a proposed offset of 0.428 MT/MWh, the default emissions factor related to replacement electricity. The cap would be increased by 0.5136 million MT with 0.5136 million MT of allowances would be provided to SDG&E. This approach is also "second best" since it relies on lagged data.

Modification of Definition of Replacement Electricity in MRR Section 95102(a) -

> (336) "Replacement electricity" means electricity delivered to a first point of delivery in California to replace electricity from ~~variable~~ **<u>RPS-eligible</u>** renewable resources in order to meet hourly load requirements. The electricity generated by the ~~variable~~ renewable energy facility and purchased by the first deliverer is not required to meet direct delivery requirements. The physical location of the ~~variable~~ renewable energy facility busbar and the first point of receipt on the NERC E-tag for the replacement electricity must be located in the same balancing authority area**, or if a balancing authority is small, an adjacent balancing authority.**

II. Key Issue 2 - Resource Shuffling

SDG&E shares ARB's concern for the integrity of the cap-and-trade program and the desire to prohibit resource shuffling. As discussed in SEu's comments on the cap-and-trade regulation, the resource shuffling provisions as proposed in the 15-day modifications are vague and overly broad, violate the intent of the cap-and-trade regulation, create the Commerce Clause issues, and contradict CPUC requirements of utilities to undertake least cost dispatch. While restrictions may be needed, it is important to draft such restrictions in a manner that does not treat legitimate electricity market transactions as a crime.[25] SEu strongly believes that the definition of Resource Shuffling found in

[24] ARB would create a list of balancing authorities it considered "small."

[25] The Cap-and-Trade regulations on "resource shuffling" would specifically define conduct as "resource shuffling" even if the conduct was performed innocently. At the same time, the regulations would define this innocently-performed conduct as "fraud" – "Resource shuffling is prohibited, is a

Section 95802(a)(245) and the provisions of Section 95852(b)(1) must be changed and we have provided recommended changes below. In addition, because such extensive changes are needed, we recommend that ARB follow-up with a stakeholder process, including a workshop and additional comments to further refine the rules to meet the disparate concerns of market participants.

If viewed properly, Resource Shuffling is a reporting issue and could exist where there is an intentional underreporting of GHG emissions. For ARB to properly deal with Resource Shuffling, it needs to be clearly articulate proper reporting in Section 95111 of the MRR including detailing: how to properly report specified imports, how to properly report transactions with asset-controlling suppliers with a variety of facilities with different emissions characteristics, and how to report emissions related to high emitting imported electricity where the importer has an ownership interest or long-term contract. Changes to the MRR 15-day modifications are included below to implement the intent of the ARB rules on Resource Shuffling, but it is recognized that there are multiple ways of dealing with the issue including restoration of the language regarding hydroelectricity, nuclear power, and high-emitting resources that was deleted in the 15-day modifications.

A. Definition of Resource Shuffling Should Be Added in Section 95102

Since resource shuffling is an intentional underreporting of GHG emissions, a definition should be included in the MRR. The definition below is the same as SEu is proposing in the cap-and-trade regulation and the rationale is explained in the SEu comments on the cap-and-trade 15-day modifications.

<u>**(xxx) "Resource Shuffling" means intentionally underreporting emissions of imported electricity in any of the following ways and does not include transactions entered into for operational purposes as demonstrated according to the provisions in § 95111(b)(2) of the MRR:**</u>

<u>**(A) An emission factor below the default emission factor is reported pursuant to MRR for a generation facility or unit of an asset-controlling supplier that has not historically served California load (excluding new or expanded facility or unit capacity). And, during the same interval(s), electricity from the same asset-controlling supplier with higher emissions was delivered to serve load located outside California and in a jurisdiction that is not linked with California's Cap-and-Trade Program; or**</u>

<u>**(B) The default emission factor or a lower emissions factor is reported pursuant to MRR, for electricity that replaces electricity with an emissions factor higher than the default emission factor that serves load in California pursuant to an ownership interest or long-term contract; except when the higher emitting electricity no longer serves California load as a result of compliance with the Emission Performance Standards adopted by the California Energy Commission and the California Public Utilities Commission pursuant to Senate Bill 1368 (Perata, Chapter 598, Statutes of 2006) ; or**</u>

<u>**(C) Specified electricity with an emissions factor higher than the default emission factor is knowingly reported by the electricity importer as unspecified electricity.**</u>

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violation of this article and is a form of fraud." However, California law is well-settled, that to constitute fraud, conduct must be intentional, with the specific intent to induce reliance.

B. Modify Reporting of Unspecified Electricity

Section 95111(a)(3) dealing with imported electricity from unspecified sources should be modified to prevent resource shuffling by not allowing reporting of high emitting specified electricity as unspecified in order to lower the compliance obligation. However, the MRR should allow specified resources with less than the default rate to report as unspecified if the importer wants to avoid registration of the resource pursuant to 95111(g) or if the importer wants to avoid potential claims of resource shuffling.

> §95111(a)(3)*Imported Electricity from Unspecified Sources.* **Imported electricity from specified sources with an emissions rate higher than the default emissions factor may not be reported knowingly as electricity from an unspecified source. Imported electricity from specified sources with an emissions rate lower than the default emissions factor may be reported as electricity from an unspecified source.** When reporting imported electricity from unspecified sources, the electric power entity must aggregate electricity deliveries and associated GHG emissions by first point of receipt.

C. Modify Reporting of Specified Electricity

In order to avoid resource shuffling, the following should be added to the reporting section for specified electricity to clarify that shuffling of an asset-controlling supplier's resources is not allowed.

> **95111(a)(4)(B) A facility or unit that is a generation source of an asset-controlling supplier must report emissions based on the asset-controlling supplier unless the facility or unit has historically served California load or the facility or unit has new or expanded capacity.**

D. Modify the Calculation of GHG Emissions of Specified Electricity

In order to avoid resource shuffling, the following should be added to the GHG emissions calculation section for specified electricity to clarify that shuffling of electricity from a high emitting resource fully or partially owned by an electricity importer or under long-term contract to the electricity importer is not allowed. The calculation is complicated because there may be legitimate reasons the electricity cannot be imported to California. The proposed calculation tries to strike a balance although it is recognized that demonstrating an operational or transmission constraint can be difficult.

95111(b)(2) at the end –

> **For facilities or units that are fully or partially owned by an electricity importer or under long-term contract, excluding multi-jurisdictional retail providers, and that have emissions greater than the default emission factor for unspecified electricity based on the most recent GHG emissions data report submitted to ARB or to U.S. EPA, the electricity importer must calculate the incremental compliance obligation of imported electricity according to the following formula:**

<u>Amount of unimported electricity = EGsp*OS – MWh</u>
<u>Incremental Emissions = [(EGsp*OS – MWh) – (EGsphy*OS – MWhhy)]*(EFsp – EFimports).</u>
<u>Where:</u>
<u>EGsp = facility or unit net generation, MWh, in a compliance year.</u>
<u>OS = fraction ownership share or share under long-term contract.</u>
<u>MWh = imported electricity, MWh in a compliance year.</u>
<u>EFsp. = facility or unit-specific emission factor, MT of CO2e/MWh.</u>
<u>EFimports = average emissions factor of imports in compliance year</u>
<u>hy = relevant quantity in the highest year 2008 - 2010</u>

<u>An electricity importer can demonstrate that there was no resource shuffling, and the above formula does not apply, if the amount of unimported electricity, (EGsp*OS – MWh), is less than the amount of unimported electricity calculated for the highest year of any of the years 2008-2010 or if the electricity importer can otherwise show operational conditions existed to prevent the high emitting electricity from being imported to California.</u>

E. ARB Needs to Calculate GHG Emissions for Asset-Controlling Suppliers

In order to avoid resource shuffling, the emissions of asset-controlling suppliers must be calculated when so indicated by the specified electricity provisions designed to reduce resource shuffling.

Modify

(3) Calculating GHG Emissions of Imported Electricity from Specified Asset-Controlling Suppliers. ARB will calculate and publish on the ARB Mandatory Reporting website system emission factors for the following asset-controlling suppliers: Bonneville Power Administration~~, multi-jurisdictional retail providers, and asset-controlling suppliers with a system emission factor greater than 1100 lbs CO2e/MWh~~ **<u>and any Asset-Controlling Supplier with a facility or unit that is registered pursuant to § 95111(g), reports the Asset-Controlling Supplier as owner in §95111(g)(1)(E) or in operational control in §95111(g)(1)(F), and the facility or unit does not meet the requirements of §95111(g)(4)(A), §95111(g)(4)(D), or §95111(g)(4)(E).</u>**

F. Include Review of Potential for Resource Shuffling as Part of the Verification Process

The detection of resource shuffling should be part of the verification process and included as part of MRR Section 95131.

Add

Section 95131(b)(6) *Electricity Importers and Exporters.* The verification team shall review the GHG Inventory Program documentation required pursuant to Section 95105(d), electricity transaction records, including deliveries and receipts of power as verifiable via North American

Electric Reliability Corporation (NERC) E-Tags, written contracts, settlements data, and any other applicable information required to confirm reported electricity procurements and deliveries, **<u>and confirm no resource shuffling has occurred</u>.**

95131(c)(4)(A) If the reporting entity and the verification body cannot reach agreement on modifications to the emissions data report that result in a positive verification statement or qualified positive verification statement for the emissions or product data because of a disagreement on the requirements of this article **<u>or claim of resource shuffling</u>**, the reporting entity may petition the ARB Executive Officer before the verification deadline and before the verification statement is submitted to make a final decision as to the verifiability of the submitted emissions data report. The reporting entity may petition either emissions or product data, or both. At the same time that the reporting entity petitions the Executive Officer, the reporting entity must submit all information it believes is necessary for the ARB Executive Officer to make a final decision.

III. Key Issue 3 - Consistency with Evolving Federal Regulations

A. General

As discussed in Section 95100.5 Purpose and Scope, the MRR incorporates various provisions of title 40, Code of Federal Regulations, Part 98 - provisions to the U.S. Environmental Protection Agency Final Rule on Mandatory Reporting of Greenhouse Gases. SEu appreciates Air Resources Board's efforts to minimize duplicative and inconsistent reporting between the MRR and the U.S. EPA Final Rule. Although the MRR states that it incorporates various provisions of the EPA rule, the language fails to subscribe to the fact that the EPA Final Rule is and has been subjected to frequent revision.

At issue is the Federal rule has been revised **seven** times since October 2009. Further, EPA is currently amending 40 CFR Part 98, Subpart W and, it is anticipated that revisions and amendments to the reporting regulation will continue. SEu understands that ARB cannot incorporate by reference EPA revisions that are not vetted in the public process but it is critical to make changes to the MRR in a timely fashion. Most importantly the MRR needs to be amended within the reporting cycles to ensure accuracy and credibility for the Cap-and-Trade program.

As detection and quantification mechanisms continue to evolve it is imperative that ARB recognize the need and establish a dynamic process to manage inconsistencies of outdated greenhouse gas monitoring methods which even now exist between the ARB and US EPA regulations.

B. Best Available Monitoring Methods

For the past several years SEu has volunteered its facilities and personnel to assist ARB conducting quantitative and qualitative analysis for emissions monitoring at natural gas facilities. This testing program has been a worthwhile endeavor as our facilities have proven to have very low fugitive emissions. As well, we have had the opportunity to test methods for monitoring emissions from many of the industry's different types of operating equipment. As always, safety and prudence have been our highest goal. During these test periods we have discovered that monitoring industry still has much opportunity for growth in both technique and technology.

We request that ARB adopt the sensible approach US EPA has adopted under it best available monitoring methods regulations. Clearly there are safety and practicability issues which are going to arise in this very young program. ARB's willingness to adopt additional language to clarify ARB's willingness to explore alternatives under Section95109 and to include such language in other monitoring sections is a sound approach to safety and evolving technology.

EPA has made available the optional use of best available monitoring methods for unique and extreme circumstances which include but are not limited to safety concerns, technically infeasible areas, and areas that are counter to other local, State or Federal Regulations for areas where it is not reasonably feasible to acquire, install, or operate a required piece of monitoring equipment within a facility or to procure measurement services.[26]

Proposed change to Section 95109. Standardized Methods

> (b) Alternative test methods that are demonstrated to the satisfaction of the Executive Officer to be **<u>a reasonable substitution</u>** ~~equally or more accurate than the~~ method~~s~~ in §95109(a), **<u>§95153, §95154</u>** may be used upon written approval by the Executive Officer.

Section by Section Comments

<u>Subarticle 1. General Requirements for Greenhouse Gas Reporting</u>

Section 95101. Applicability

> Section 95101(e) (page 7) Petroleum and Natural Gas Systems seem requires that for any facility that has sub facilities which meeting the definition of more than one of the facilities identified in the list of eight facilities, all of the sub facilities may require separate individual reports. For example if an underground storage facility is co-located with transmission compression equipment, will ARB treat that facility as a single facility or as two separate facilities? Clarification is required since dual reporting will lead to overlap and duplication.
>
> > Comment: It is recommended that ARB adopt referenced EPA guidance language[27] which requires the reporter to determine the industry segment for which the majority

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[26] Federal Register /Vol. 75, No. 229 /Tuesday, November 30, 2010 /Rules and Regulations 74473

[27] U.S. EPA guidance has clarified that a facility should only report as "one facility." In their statement of clarification EPA stated "If the natural gas processing plant and the underground storage operations are part of the same facility, as defined in 40CFR 98.6 you would report as one facility and submit one annual GHG report for these operations. http://www.epa.gov/climatechange/emissions/downloads11/documents/Subpart-W-additional-faq.pdf Specific discussion

of emissions occur and report all equipment within that facility for which there is a method defined.

Section 95102 Definitions: We recommend the following revisions to the definitions to keep them consistent with the Cap-and-Trade regulations to conform to other changes that ARB has made to the regulations in the 15-day modifications, or to implement changes proposed in these comments.

Comment: "Covered" should be deleted from the definition of "compliance obligation" to conform to changes already made in the corresponding definition in the Cap-and- Trade regulation Definition 53

(82) "Compliance obligation" means the quantity of verified reported or assigned emissions for which a**n** ~~covered~~ entity must submit compliance instruments to ARB.

Comment: Synchronize the definition of "compliance period" with language in the Cap-and-Trade Regulation (definition 55) page A-11 that reflects that the 1st compliance period is 2 years

(84) "Compliance period" means the ~~three-year~~ period for which the compliance obligation is calculated for covered entities pursuant to the Cap-and-Trade Regulation.

Comment: Definition 141 for "farm taps" is no longer pertinent to the regulation. Recommend delete.

~~(141) "Farm taps" means pressure regulation stations that deliver gas directly from transmission pipelines to generally rural customers. The gas may or may not be metered, but never pass through a city gate station. In some cases a nearby LDC may handle the billing to the customer(s).~~

Comment: The definition of "power contract" should clarify that it applies to short-term contracts as well as longer-term contracts. Enabling agreements should be mentioned explicitly to assure there is no confusion that short-term agreements under a master agreement are included. For example, Western System Power Pool trades should be allowed to be specified resources or supplies.

(295) "Power contract" means a written document arranging for the procurement of electricity. Power contracts may be, but are not limited to, power purchase agreements, **enabling agreements,** and tariff provisions.

reference see EPA-HQ-OAR-2009-0923-1024-14 kinder Morgan http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2009-0923-3608

Section 95105. Document and Record Keeping Requirements

Comment on Section 95105(c)(4): The second use of the word "dates" should be changed to the term "schedule" to be consistent with existing federal, state and local requirements that require facilities to conduct calibrations or inspections within timeframes (e.g. annually, quarterly, etc) versus a specific date. As stated in Sections 95103(K)(4)(c) and (e) periods of time are allotted.

> §95105(c)(4) "The dates of measurement device calibration or inspection, and the ~~dates~~ **scheduled period** of the next required calibration or inspection…"

Section 95107. Enforcement

Comment on 95107(b): SEu recognizes the need for penalty provisions as a key method to ensure compliance. However, it is inappropriate for ARB to have a penalty structure based on a per ton basis. The penalties based on a per ton metric would be exponentially greater compared to other criteria pollutant programs. ARB should revise Section 95107 (b) accordingly. SEu has made similar comments on the cap-and-trade regulation regarding Section 96014, Violations.

> (b) Each **1000** metric ton**s** of CO2e emitted but not reported as required by this article is a separate violation.

Comment on Section 95107: A new subsection should be added to clarify underreporting within the 5 percent tolerance is not subject to penalties unless it is the result of intentional falsification of emissions data or fraudulent activities.

> **(x) If the amount of under reported emissions of a covered entity is found to be within 5 percent of the verified emissions data report for a compliance period, there is no penalty, unless the Executive Officer determines the covered entity falsified data or engaged in fraudulent activities.**

Subarticle 2. Reporting Requirements and Calculation Methods for Specific Types of Facilities, Suppliers, and Entities

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

Comment on Section 95111(2)(g)(1): Delete the word "anticipated" in the Registration of Specified Sources since the action occurs following the end of the data year.

Modify

> §95111(2)(g)(1) (page 116) (1) Registration of Specified Sources.
> Each electricity importer claiming specified sources of electricity must register its ~~anticipated~~ specified sources with ARB prior to February 1 following each data year. For purposes of

registration under this paragraph, specified sources are facilities and units. The following information is required to register specified sources:

Comment on Section 95111(c): The 15-day modifications impose new requirements in section 95892(f) to prohibit the use of allowances allocated to an electric distribution utility to be used to meet the compliance obligations of electricity sold into the California Independent System Operator (CAISO) markets. In order to monitor this prohibition, Publicly Owned Electric Utilities and Electric Cooperatives should be required to report sales into CAISO markets in Section 95111(c) of the MRR.

Add

§95111(c) (5) Publicly Owned Electric Utilities and Electric Cooperatives must report total annual electricity sales into California Independent System Operator markets for which they are the first deliverer.

Section 95115. Fuel Combustion Sources

Comment on Section 95115(e): Per the provisions of Subarticle 4, "chain of title" is the verification mechanism. This regulation appears to require verification that the biomethane molecules are actually delivered to the facility. This is not possible as neither the operator nor the verifier can differentiate the individual qualities of mixed fuels sampled and measured at the facility meter.

Modify

§95115(e) (3) When calculating emissions from a biomethane and natural gas mixture using a Tier 2 method, the operator must calculate emissions based on verifiable ~~contractual~~ deliveries of biomethane **from an upstream entity**, using the natural gas emission factor in the following equations:

mmBTUbiomethane = The total verifiable biomethane **from an upstream entity** for the reporting year ~~based on contractual deliveries~~

Comment on Section 95115 Table 1 that does not list natural gas : Table 1 limits the fuels for which Tier 1 methodology can be used for CO_2 emission estimates. However, Table 1 does not appear to apply for CH_4 and N_2O emission estimates; thus, for fuels listed in Table C-2 of 40 CFR 98 Subpart C but not in Table 1 (e.g., natural gas), it would appear that CH_4 and N_2O emissions can be estimated using Tier 1 estimates but CO_2 must be estimated using a higher tier methodology. This will create differences between CARB and EPA reporting, and unnecessarily complicate calculations.

SEu has two alternative recommendations:

Preferred alternative: Remove Table 1 from the regulation and directly reference 40 CFR 98 Subpart C.

Alternate: Natural gas should be added to Table 1 for consistency with 40 CFR 98 Subpart C reporting.

Subarticle 5. Reporting Requirements and Calculation methods for Petroleum and Natural Gas Systems

Section 95152. GHGs to Report

Comment on Section 95152(c): Add the (c) in 40 CFR §98.232 to indicate subparagraph (c) for clarity.

Modify

> § 95152(c) For onshore petroleum and natural gas production, the operator must report emissions from the source types specified in 40 CFR §98.232***(c),*** in aggregated and disaggregated form as specified in section 95156(a).

Section 95153. Calculating GHG Emissions.

Comment on Section 95153(d): The equation should have 100 in the denominator (to convert %G to a mole fraction)

Modify

> § 95153 (d)(1) $Es,n=n(H*D2*\pi*P2*\%G)/(4*P1*1{,}000cf/Mcf)/\mathbf{100}$

Comment on Section 95153(m): GHG emissions from centrifugal compressors can vary significantly depending on the type of seals and the size of the compressor and alternative emission estimation methodologies for centrifugal compressors less than 250 hp are needed.
The citied GHG emission factors (EF) for centrifugal compressors with rated horsepower less than 250 hp (from 40 CFR §98.233(o)(7)) are not appropriate and would most likely severely over-estimate GHG emissions for compressors of this size range. The centrifugal compressor EF is based on emissions data from processing facility compressors equipped with wet seals.[28,29] The emission factors over-estimate emissions from small centrifugal compressors because (1) not all compressors are equipped with wet seals and emissions from dry seals are typically an order of magnitude or more lower than wet seal emissions[27] and (2) processing facility compressors are typically an order of magnitude or more larger than the average compressor less than 250 hp. As a point of comparison, the centrifugal compressors methane emission factor from 40 CFR §98.233(o)(7) is 12,200,000 scf CH_4/yr, a factor of 100 greater than the corresponding methane emission factor for reciprocating compressors < 250 hp (9,630 scf CH_4/yr).

[28] Bylin, Carey (EPA), et. al (2009) *Methane's Role in Promoting Sustainable Development in Oil and Natural Gas Industry*.
[29] EPA/GTI/Clearstone. *Identification and Evaluation of Opportunities to Reduce Methane Losses at Four Gas Processing Plants*. June 20, 2002. <http://epa.gov/gasstar/documents/four_plants.pdf>

An alternative could be emission factors that consider compressor size and seal type. Direct monitoring could also be an alternative to using inaccurate emission factors, but direct monitoring can at times be unsafe due to intermittency and intensity of venting operations. For these accuracy reasons, and the possibility of alternative measurement solutions which have yet to be identified, it is recommended that operators be given the option to request from ARB the opportunity to use other available monitoring methods.

Delete

> ~~§95153(m)(2) The operator must calculate CO2, CH4, and N2O (when flared) emissions for all centrifugal compressors with rated horsepower less than 250hp using the methodologies found in 40 CFR §98.233(o)(7).~~

Comment on Section 95153(t): Equation should be changed to correspond to most recent Subpart W proposed revisions.

Modify

> §95153(t) The operator must calculate GHG mass emissions using the following equation:
>
> $Mass_{s,i} = E_{s,i} * \rho_i * 10^{-3}$
>
> P=Density of GHG i. Use 0.~~0538~~ **0.0520** kg/ft^3 for CO2 and N2O, and 0.~~0196~~ **0.0190** kg/ft^3 for CH4 at 68°F and 14.7 psia or 0.0530 kg/ft3 for CO2 and N2O, and 0.0193 kg/ft3 for CH4 at 60˚F and 14.7 psia[30].

Comment on Section 95153 (w) and (x): Delete the word "portable" for clarity in (w) because the section is already referring to portable equipment combustion emissions, and delete "portable" in (x) since it is not applicable.

Modify

> § 95153 (w) *Portable Equipment Combustion Emissions.* The operator must ~~calculate from portable equipment pursuant to section 95115 of this article.~~ **use the methods in §95115 and report under this subpart the** emissions of CO2, CH4, and N2O from portable fuel combustion equipment as defined in §95102(288)
>
> § 95153 (x) *Stationary* ***Equipment*** *Combustion Emissions.* The operator must use the methods in section 95115 and report under this subpart the emissions of CO2, CH4, and N2O from stationary or ~~portable~~ fuel combustion equipment as defined in 40 CFR §98.232(c)(22).

Possible Alternative text to Section 95153 (w) and Section 95153 (x) (i.e., substitute the following text for current versions of Section 95153 (w) and Section 95153 (x))

[30] Corrected text from most recent Subpart W proposed revisions (76 FR 43792)

Add

> **<u>§ 95153(w) Stationary and Portable Equipment Combustion Emissions. The operator must use the methods in section 95115 and report under this subpart the emissions of CO2, CH4, and N2O from stationary or portable fuel combustion equipment as defined in 40 CFR §98.232(c)(22).</u>**

Thank you for the opportunity to provide these comments.

Sincerely