Comments of the Western Power Trading Forum
On the California Air Resources Board's
Proposed Amendments to the Regulation for the
Mandatory Reporting of Greenhouse Gas Emissions

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The Western Power Trading Forum1 (WPTF) appreciates the opportunity to provide comments to the California Air Resources Board (ARB) on its Proposed Amendments to the Regulation (PAR) for the Mandatory Reporting of Greenhouse Gas Emissions. Our comments are directed at provisions related to reporting of emissions of electric power entities. WPTF has also provided comments on the treatment of electricity imports in the Modified Regulation Order for a California Greenhouse Gas Cap and Trade Program, which should be read in conjunction with these.

An overview of our most significant concerns is provided below. We then provide recommendations for textual changes for definitions and section 95111 (Data Requirements and Calculation Methods for Electric Power Entities).

General Comments

The level of the default emission rate is not representative of marginal generation within the WECC.

WPTF has previously raised a concern that the default emission rate, originally set at .435 MT of CO2e/MWh would disadvantage cleaner, in-state resources. This concern has been heightened by the fact that the default rate has been lowered to .428 MT of CO2e/MWh or 943 lbs/MWh in the PRA. WPTF's understanding is that this rate has been calculated using the Western Climate Initiative's ("WCI") Default Emission Tool and is intended to be representative of marginal generation within the WECC. Yet when the California Energy Commission analyzed the appropriate level for the State's Emission Performance Standard, they rejected a number higher than CARB's default rate because "almost no natural gas units (that are not combined cycles) operate at a heat rate of less than 8,590 Btu/kWhr."[2] Based on this analysis, the California Public Utility Commission ultimately set the Emission Performance Standard at a level of 1100 lbs./MWh because that level is more representative of generation within the WECC.

The reason that the number generated by the WCI default emission factor tool is so much lower that the value used for the Emission Performance Standard is because it is calculated as a generation-weighted average of marginal units (defined as non-renewable, non-CHP facilities with a capacity factor of less than 60%). By weighting facility emissions by net generation, the resulting emission rate is biased toward the cleaner, more efficient facilities that operate more

[1] WPTF is a diverse organization comprising power marketers, generators, investment banks, public utilities and energy service providers, whose common interest is the development of competitive electricity markets in the West. WPTF has over 60 members participating in power markets within California, western states, as well as other markets across the United States.

[2] Collard, Gary. "Implementation of SB 1368 Emission Performance Standard", Staff Issue Identification Paper, California Energy Commission, 2006 at page 14.

frequently than less efficient units. This bias is further exacerbated by the fact that the data used in the calculator was from 2008, a year with relatively high hydroelectric generation. Less-efficient units are called upon less in high hydro years than they are in lower hydro years.

Rather than use a generation-weighted average, CARB should instead use a capacity-weighted average. A capacity-weighted average would not be biased toward the emission rates of the more efficient resources, nor be subject to the vagaries of hydroelectric generation. Using the data in the WCI default emission rate calculator and the same definition for marginal resources, WPTF calculated a WECC-wide capacity-weighted emission average for 2008 of approximately .51 metric tons or 1127 lbs/MwH. This number is more representative of marginal generation in the WECC and consistent with California's Emissions Performance Standard. WPTF requests CARB to replace the default emission rate with one calculated on a capacity weighted average. Additionally CARB should monitor electricity imports and raise the default emission rate if there is evidence that high emission electricity is being imported as unspecified power.

The quantification of Electricity Imports overstates California consumption

WPTF has also previously raised a concern that the original approach to quantifying imports would significantly overstate electricity consumption in the state, thereby arbitrarily and unnecessarily raising allowance prices (causing overall electricity prices to increase), and making the cap and trade regulation more vulnerable to legal challenges from electricity importers. The PRA has partially addressed this concern by allowing a netting of imports against "qualified" exports within the same hour. Even with this change, we remain concerned that the quantity of unaccounted exports could still be significant. We urge CARB to work with the California Independent System Operator ("CAISO") and other California balancing area authorities to quantify residual exports not netted as 'qualified exports' and, if this quantity is significant, to develop a mechanism to account for such exports in subsequent compliance periods.

Rules for specification of imports should not require that the natural gas resources have historically served California load.

As we state in our comments on the cap and trade regulation, natural gas generation is dynamic throughout the WECC. Therefore, requiring that any an entity that wants to claim a specified emission rate for a resource must be able to establish that that resource has historically served California load is not consistent with market realities, will inhibit normal, efficient market transactions and reduce the liquidity of the California power markets. In particular, the requirement that a generation source has historically served load in California would disadvantage natural gas-fired resources that have historically sold their output through markets instead of bilateral contracts, as they could not meet the requirements for specification. Conversely, resources that have historically imported into California under bilateral contracts would be forced to extend those contracts in order to maintain eligibility for a specified emission

rate for their imports. CARB should eliminate the historic load requirement as a prerequisite to being classified as a specified resource for natural gas resources.

WPTF provides a number of editorial comments intended to improve the clarity of the regulation below.

Detailed Comments

Definitions (95102)

Electricity Exporter and Electricity Importer: The definitions of "Electricity Exporter" and "Electricity Importer" currently presume that the purchasing-selling entity listed on the physical path of a NERC E-tag owns title to the power, which may not always be the case. he NERC E-tag was not created with the intention of identifying or verifying the holder of title to electricity in order to correctly identify the importer/ exporter of power for GHG reporting purposes. Additionally, per section 22.13 of the CAISO tariff, "the CAISO will not act as principal but as agent for and on behalf of the relevant Scheduling Coordinators". CAISO may not be the entity that takes actual title to power sold at points of receipt outside the state of California and is delivered to points inside the state of California, but the CAISO does act as the agent for the entity that may be the actual holder of title. Furthermore, entities that sell power at points of receipt outside the state of California, and are paid the relevant index price at the respective points of receipt, do not always chedule transmission to deliver the power into CAISO or into the state of California. The fact that those entities that sell the power to CAISO, or to those entities for whom CAISO acts as agent, at these points do not schedule transmission to deliver the power into the state of California demonstrates that the selling identified as the PSE on the E-tag may not be the entity that holds title to the power.

WPTF suggests modifications to both definitions to avoid the reference to title:

> "Electricity exporter" means marketers and retail providers that hold title to exported electricity. For electricity delivered between balancing authority areas, the entity that ~~holds title to exported electricity~~ is identified on the NERC E-tag as the purchasing-selling entity (PSE) on the tag's physical path, with the point of receipt located inside the state of California and the point of delivery located outside the state of California, will be considered the "Electricity Exporter".
>
> "Electricity importers" are marketers and retail providers that hold title to imported electricity. For electricity delivered into balancing areas of the California Independent System Operator, the entity that successfully bid the electricity into the CAISO market will be considered the importer. This entity is identified as the purchasing-selling entity (PSE) on a final NERC E tag's physical path, with the point of receipt located outside the state of California and the point of delivery located inside the CAISO. For electricity delivered ~~between~~ into other balancing authority areas in the state, the entity that ~~holds title to delivered electricity~~ is identified on the NERC E-tag as the purchasing-selling entity (PSE) on the tag's physical path, with the point of receipt located outside the state of California and the point of delivery located inside the state of California, will be considered the "Electricity

Importer". Federal and state agencies are subject to the regulatory authority of ARB under this article and include Western Area Power Administration (WAPA), Bonneville Power Administration (BPA), and California Department of Water and Power Resources (DWR). When PSEs are not subject to the regulatory authority of ARB, including tribal nations, the electricity importer is the immediate downstream purchaser or recipient that is subject to the regulatory authority of ARB.

Purchasing/selling entity" or "PSE" means an ~~the functional~~ entity ~~that i purchases or sells, and takes title to energy, capacity, and reliability related services. A PSE is~~ identified on a NERC E-tag for each physical path segment.

Direct Delivery: The definition of direct delivery currently provides that as one condition for specification of imports, 'the electricity is scheduled for delivery into a California balancing authority with replacement electricity from another source.' WPTF generally agrees with this requirement, but believes it should be further elaborated to facilitate verification that the specified source provided the power. Specifically, the scheduled delivery should be document with a NERC e-tag and the specified facility indicated on that tag.

"Direct delivery of electricity" means electricity that meets any of the following criteria:
(A) The facility has a first point of interconnection with a California balancing authority;
(B) The facility has a first point of interconnection with distribution facilities used to serve end users within a California balancing authority area;
(C) The electricity is scheduled for delivery from the specified source into a California balancing authority without replacement electricity from another source, as documented on a NERC e-tag, and the facility ID of the resource is identified on that e-tag; or
(D) There is an agreement to dynamically transfer electricity from the facility to a California balancing authority.

Electricity wheeled through California and Qualified Exports: The regulation currently exempts emissions from imports from a carbon obligation when the import is associated with a wheel-through or qualified export. However, the difference between these two types of export transactions is unclear. To avoid confusion, we suggest that electricity that is wheeled through be defined as an import and export transaction occurring on a single tag.

Further, the regulation treats the export side of the two transactions differently. For electricity that is wheeled through, the regulation directs electricity entities to exclude wheel-through transactions from both reported imports and reported exports. Conversely, for qualified exports, electricity entities must report both the imports and exports, but subtract emissions associated with 'qualified exports' from covered emissions. WPTF recommends that both electricity wheeled-through and qualified exports be treated the same with respect to reporting and calculation of compliance emissions, and that this guidance be clarified in section 95111, rather than in the definition.

We recommend the following changes to the respective definitions to address these concerns:

> "Electricity wheeled through California" means electricity that is generated outside the state of California and ~~delivered into~~ scheduled through California with final point of delivery outside California <u>for which the physical path of both the import and export legs are contained on a single NERC E-tag."</u>
>
> "Qualified exports" means emissions associated with electricity that is exported in the same hour as imported electricity and documented by NERC E-tags. Only electricity exported within the same hour and by the same PSE as the imported electricity is a qualified export. It is not necessary for the imported and exported electricity to enter or leave California at the same intertie. ~~Emissions associated with qualified exports may be subtracted from the associated imports. Qualified exports shall not result in a negative compliance obligation for any hour.~~

General Requirements for Electric Power entities (Section 95111)

<u>General Requirements and Content for GHG Emissions Data Reports for Electricity Importers and Exporters</u>

Delivered Electricity: The use of the term "delivered electricity" is confusing and in places seems to require duplicative reporting. We therefore recommend that only the term 'imported electricity' be used in paragraph 2 and throughout this section. Paragraph 2 should also reference the subsequent paragraphs, which provide more detailed guidance.

> *(2) ~~Delivered~~ Imported Electricity.* The electric power entity must report ~~delivered~~ <u>imported</u> electricity in MWh, disaggregated by first point of receipt, and must also separately report all ~~delivered~~ <u>imported</u> electricity from unspecified sources, and from each specified source, <u>in accordance with paragraphs (3) and (4) below</u>.

Unspecified Sources: WPTF suggests the following modifications to paragraph (3) for clarity.

> *(3) Imported Electricity from Unspecified Sources.* When reporting ~~-~~imported electricity from unspecified sources, the ~~electric power entity must aggregate electricity deliveries and associated GHG emissions by first point of receipt. The~~ electric power entity also must report <u>for each first point of receipt</u> the following:
> (A) Whether the first point of delivery is located in a linked jurisdiction published on the ARB Mandatory Reporting website;
> (B) The <u>total</u> amount of electricity ~~from unspecified sources~~ as measured at the first point of delivery in California; and,
> (C) ~~Separately report~~ <u>The amount of any electricity that serves as</u> replacement electricity for variable renewable resources; and
> (D) GHG <u>emissions, including those associated with</u> transmission losses ~~must be reported~~ as required in section 95111(b).

Specified sources: Most of WPTF's comments to paragraph 4 are intended to improve the clarity of the text. However, we would note that it is inappropriate to include the purchase of generation from specified renewable resources under this section. By definition, if replacement energy has been provided, then no corresponding physical quantity has been delivered from the renewable resource. For this reason, we recommend that ARB include a separate paragraph on reporting of purchases from renewable resources, and corresponding replacement electricity.

> *(4) Imported Electricity from Specified Sources ~~Facilities or Units.~~* ~~The electric power entity must report all direct delivery of electricity as from a specified source for facilities or units in which they are a generation providing entity (GPE) or have a written power contract to procure electricity.~~ When reporting imported electricity from specified sources ~~facilities or units~~, the electric power entity must ~~disaggregate electricity deliveries and associated GHG emissions by facility or unit, as applicable~~ separately report the following for each specified source:
> (A) ~~Claims of specified sources of imported electricity are calculated~~ The ARB identification number of the specified source, registered pursuant to section 95111(b), ~~and must meet the requirements in section 95111(g), and include the following information:~~
> ~~1~~; (B) The amount of imported electricity from the specified source ~~facilities or units~~ as measured at the busbar, ~~and~~ or
> ~~2. The amount of imported electricity deliveries from specified facilities or units~~ where measurements at the busbar are not known, the amount of imported electricity as measured at the first point of delivery in California, ~~estimated transmission losses as required in section 95111(b),~~ and the reason why measurement at the busbar is not known; and
> (C) GHG emissions, including any associated with transmission losses ~~must be reported~~ as required in section 95111(b).
> ~~(3. The purchase of generation from specified variable renewable resources and the replacement electricity delivered must be separately reported.~~

Imported Electricity from Asset-Controlling Supplier: WPTF has previously raised a concern that the rules for asset-controlling supplies would provide opportunities for resource-shuffling of electricity sourced within BPA. To address this concern, the regulation should be revised so that electricity sourced from an asset-controlling supplier can only be attributed the emission rate of that supplier when the asset-controlling supplier is *also* the importer. We recommend the following changes to paragraph (5) to address this:

> *(5) Imported Electricity from Asset-Controlling Suppliers.* The electric power entity must separately report imported electricity supplied by asset-controlling suppliers recognized by ARB. The asset-controlling supplier must be identified on the NERC E-tag as the PSE at the first point of receipt and for the portion of the physical path with the point of receipt located outside the state of California and the point of delivery located inside the state. The electric power entity must
> *(A)* Report the asset-controlling supplier standardized PSE acronym or code, full name, and the ARB identification number;

(B) Report ~~delivered~~ the electricity under imports from specified sources along with all required information ~~and not as unspecified~~; and
(C) ~~Report the electricity from asset-controlling suppliers as measured at the first point of delivery in the state of California; and,~~
~~(D) Report GHG emissions calculated pursuant to section 95111(b), including transmission losses.~~

Exported Electricity: As discussed above, WPTF recommends equivalent treatment of electricity that is wheeled through California and qualified exports. Further we are concerned that the requirement that entities report associated emissions for exported electricity necessitates an assumed emission rate for the exports. This is reinforced by the provision that the quantity of exported electricity is reported 'as measured at the last point of delivery', which presumes that the power is associated with an injection to the grid within California.

Rather than impute an emission rate for exports, we recommend that ARB simply require entities to report the quantity of exported electricity. For electricity that is wheeled through and qualified exports, this quantity would simply be deducted from the relevant quantity of imports before applying the appropriate emission factor. We recommend the following changes to paragraph (6) to reflect this. In addition, Paragraph (9) - Electricity Wheeled Through California - should be deleted.

(6) Exported Electricity: The electric power entity must report exported electricity in MWh ~~and associated GHG emissions in MT of CO_2e~~ aggregated by each final point of delivery outside the state of California, as well as the following information:
(~~A) Exported electricity as measured at the last point of delivery located in the state of California, if known. If unknown, report as measured at the final point of delivery outside California.~~
~~(B) Do not report estimated transmission losses.~~
(A) Report whether the final point of delivery is located in a linked jurisdiction published on the ARB Mandatory Reporting website;
(D) ~~Report GHG emissions calculated pursuant to section 95111(b)~~
(B) ~~Separately report~~ The quantity of any qualified exports as defined in section 95102(a); and
(C) The quantity of electricity wheeled through California, as defined in section 95102(a).

Electricity Generating Units and Cogeneration Units: Paragraphs (11) and (12), pertaining to Electricity Generating Units and Cogeneration Facilities, are out of place in this section. We recommend moving them to section 95112.

Calculation of GHG emissions

WPTF is concerned that the calculations of covered emissions for the compliance obligation under the cap and trade program requires calculation of emissions for various categories of imports (unspecified, specified) then deduction of GHG emissions associated with a number of categories: imports from linked jurisdictions, specified sources below the 25,000 MT threshold, qualified exports and an adjustment for replacement energy. This approach is problematic

because it requires the entity to assign an emission rate to each of the deductible categories; without guidance from ARB, an entity will always assign the highest emission rate possible (either an unspecified, or specified high emission rate) to these deductions.

Instead, we recommend that the *quantity* in MWh for each deductible category be deducted from the appropriate quantity of imports. This would avoid the need to assign an emission rate for the deductible categories. For instance, where an entity is deducting qualified exports against unspecified imports, the quantity of qualified exports should be deducted from the quantity of unspecified imports, and the resulting quantity multiplied by the default emission rate.

This alternative approach is also more compatible with the way in which electric power entities are likely to track their compliance obligations. Because electric power entities will need to track their electricity imports on an hourly basis (because qualified exports must be netted against imports within the same hour), it will be more efficient for entities to track their obligations in MWh over time for different categories of imports and simply apply the appropriate emission rates to the totals for each category at the end of the year.

We recommend that ARB revise this entire section to reflect our proposed alternative approach. For this reason, we do not provide textual changes to this section. Additionally, as we discuss above, the default emission factor should be calculated using a capacity-weighted average, rather than a generation-weighted average, of marginal resources within the WECC.

(g) Requirements for Claims of Specified Sources of Imported Electricity and Associated Emissions.

We have a number of concerns about this section. First, the text seems to presume a one-to-one contractual or ownership relationship between the importer and the specified source. If a resource provides power to California through two or more importers, the text would require each importer to register the source. Instead, we recommend allowing either the resource operator/owner or the importer to register the source; other importers could then refer to the original registration.

Second, the text seems to mix the requirements for specified source registration with the requirements for claiming a specified source. In our view, registration should be a one-off process, with updates as necessary. Claims to imported power from a specified source should be an annual process through importers' annual data reports. For example, designation of a specified source as a continuing or newly specified source should be a requirement for claims to a specified source in the annual data reports, not a requirement for specified source registration. We suggest that information relating to claims to specified sources be moved to the beginning of paragraph (9), and our comments on that paragraph reflect that.

Third, it is not clear whether information required under paragraph (4) is intended as a condition for claiming specified power, or required only for monitoring purposes. If the former, this should be explicit. In either case, as we discuss above, natural gas resources should not be required to meet a historic consumption test.

(g) *Requirements for Claims of Specified Sources of Imported Electricity and Associated Emissions.* ~~Electricity importers must register~~ Electricity importers may claim a specified source when the electricity delivery meets any of the criteria for direct delivery of electricity defined in section 95102(a), or the claim requires replacement electricity for variable renewable resources as defined in section 95102(a), and meets one of the following sets of conditions:
(A) The electricity importer is a GPE; or has an ownership share in the facility or unit or a written contract for a specified percentage of the facility's or unit's generation in the report year;
(B) The electricity importer has a written power contract to receive electricity generated by the facility or unit.

(1) *Emission Factors.* The emission factor published on the ARB Mandatory Reporting website, calculated by ARB according to the methods in section 95111(b), must be used when reporting GHG emissions for a specified source of electricity

(~~1~~2) *Registration of Specified Sources* ~~. Each electricity importer claiming specified sources of electricity must register its anticipated specified sources~~ To be eligible for a specified emission rate, a specified source must be registered 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:
(A) The facility names and, for specification to the unit level, ~~provide~~ the facility and unit names.
(B) For sources with a previously assigned ARB identification number, the ARB facility or unit identification number or supplier number published on ARB's mandatory reporting program website. For newly specified sources, ARB will assign a unique identification number.
(C) If applicable, the facility and unit identification numbers as used for reporting to the Energy Information Administration, U.S. EPA Acid Rain Program, U.S. EPA pursuant to 40 CFR Part 98, U.S. Energy Information Administration, Federal Energy Regulatory Commission's PURPA Qualifying Facility program, California Energy Commission, and California Independent System Operator, as applicable.
(D) The physical address of each facility, including jurisdiction.
(E) ~~Provide~~ Names of facility owner and operator.
(F) The percent ownership share and, when an electricity importer registers the facility, whether the facility or unit is under the electricity importer's operational control.
(G) Total facility or unit gross and net nameplate capacity ~~when the electricity importer is a GPE.~~
(H) Total facility or unit gross and net generation ~~when the electricity importer is a GPE~~.
(I) Start date of commercial operation and, when applicable, date of repowering.
(J) ~~GPEs claiming~~ When registering additional capacity at an existing facility, ~~must include~~ the implementation date, the expected increase in net generation (MWh), and a description of the actions taken to increase capacity.
(K)~~Designate whether the facility or unit is a newly specified source, a continuing specified source, or was a specified source in the previous report year that will not be specified in the current report year.~~
~~Provide~~ The primary technology or fuel type as listed below:

1. Variable renewable resources by type, defined for purposes of this article as pure solar, pure wind, and run-of-river hydroelectricity;
2. Hybrid facilities such as solar thermal;
3. Hydroelectric facilities ≤ 30 MW, not run-of-river;
4. Hydroelectric facilities > 30 MW;
5. Geothermal binary cycle plant or closed loop system;
6. Geothermal steam plant or open loop system;
7. Units combusting biomass-derived fuel, by primary fuel type;
8. Nuclear facilities;
9. Cogeneration by primary fuel type;
10.Fossil sources by primary fuel type;
11.Co-fired fuels;
12.Municipal solid waste combustion;
13.Other.

4) *Additional Information for Specified Sources.* For each claim to a specified source of electricity, the electricity importer must indicate whether one or more of the following conditions applies.
(A) Electricity historically consumed in California. ~~Specified source of~~ Electricity generated from a specified hydroelectric facility over 30 MW, or a nuclear generating facility that has been reported in a 2009 verified data report and is claimed for the current data year by the same electricity importer, based on a written power contract or status as a GPE in effect prior to January 1, 2010 that remains in effect, or that has been renegotiated for the same facility or generating unit for up to the same share or quantity of net generation within 12 months following prior expiration. When imported electricity from a specified ~~facility~~ hydroelectric facilities over 30 MW, or a nuclear generating facilities reported in a 2009 data report is greater than 80 percent of net generation that year, any subsequent GPE for the facility or purchasing-selling entity with a written power contract may claim it as a specified source for up to the full amount of net generation measured at the busbar in the current data year;
(B) Deliveries from existing federally owned hydroelectricity facilities by exclusive marketers. Electricity from specified federally owned hydroelectricity facility delivered by exclusive marketers;
(C) Deliveries from existing federally owned hydroelectricity facilities allocated by contract. Specified federally owned hydroelectricity source delivered by electricity importers with a written power contract in effect within 12 months after changes in rights due to federal power allocation or redistribution policies, including acts of Congress, and not related to price bidding, that remains in effect or has been renegotiated for the same facility for up to the same share or quantity of net generation within 12 months following prior contract expiration;
(D) Deliveries from new facilities. Specified ~~source of electricity~~ hydroelectric facility over 30 MW, or a nuclear generating facility is first registered pursuant to section 95111(g)(1) and delivered by an electricity importer within 12 months of the start date of commercial operation and the electricity importer making a claim in the current data year is either a GPE or purchaser of electricity under a written power contract;

(E) Deliveries from existing facilities with additional capacity. Specified ~~source of electricity~~ hydroelectric facility over 30 MW, or a nuclear generating facility is first registered pursuant to section 95111(g)(1) and delivered by a GPE within 12 months of the start date of an increase in the facility's generating capacity due to increased efficiencies or other capacity increasing actions.