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Comments from the Western Power Trading Forum attached.

**Comments of the Western Power Trading Forum
to the Washington Department of Ecology
on Electricity Imports through
Centralized Electricity Markets**

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Introduction

The Western Power Trading Forum (WPTF) appreciates the opportunity to provide input to the Washington Department of Ecology (Ecology) on its consideration of informal draft rules for electricity imported via Centralized Electricity Markets. Development of robust rules for these imports is essential to ensure the environmental integrity of the Climate Commitment Act (CCA) and to facilitate linkage to the California and Quebec cap-and-trade programs.

WPTF's general comments on the informal draft reporting rule are provided below. The separate attachment includes our suggested edits to the draft and explanatory comments of these changes in the margins. These textual changes are shown as strike-out deletions and underlined insertions on top of a clean version of the informal rules (i.e. all Ecology's proposed changes have been accepted). Ecology should also make changes in the CCA program rule, consistent with those we recommend in the reporting rule.

Given the complexity of the changes needed to the rules to address electricity imported through the centralized markets, we urge Ecology to provide one more iteration of informal rules and comments prior to the formal proposed rule.

General Comments

Ecology must unambiguously define the electricity importer for electricity imported through the centralized markets.

The definitions included in RCW 70A.65.010 (27) are intended to determine the entity that will bear obligation to acquire and surrender allowances associated with imported electricity under the CCA. To enable identification of a single entity that bears the compliance obligation for each import, the statutory definitions describe multiple import scenarios and precisely identify which entity would be the electricity importer in each case. It is therefore reasonable to infer that the legislature intended the same level of specificity in the mandate to Ecology to define the electricity importer for electricity imported through a centralized market.

The definition of "designated market importer" proposed by Ecology fails to unambiguously define the electricity importer for electricity imported through a centralized market by inappropriately delegating the responsibility to make such determinations to the centralized market operators. Not only is this approach incompatible with Ecology's fundamental responsibility to establish and enforce compliance rules for the CCA, but it also could create risk for market operators that the Federal Energy Regulatory Commission (FERC) would reject the greenhouse gas accounting and attribution provisions in the market tariffs.

WPTF understands and supports Ecology's intention to accommodate the market designs of both the California Independent System Operator's (CAISO) Extended Day Ahead Market (EDAM) and the Southwest Power Pool's Markets+ in this rulemaking. However, achieving this objective does not necessitate delegating the critical determination of the compliance entity for electricity imports to the market operators. Rather, Ecology can simply define the electricity importer for two types of electricity imports through the centralized markets:

- specified-source electricity imports: the market participant that offers the energy, and
- unspecified pathway market electricity: the market participant that purchases unspecified pathway market electricity (the Washington retail providers).

In the case that a centralized market design does not enable unspecified pathway electricity imports, the definition of electricity importer for those imports would simply not apply.

Further, by clearly defining the electricity importer for both types of imports through a centralized market, Ecology avoids the need for a compliance backstop that would define the importer as the market operator. Both market operators have demonstrated a clear willingness to support implementation of the CCA by developing procedures that attribute electricity to Washington and that identify the specific market participant that would be considered the electricity importer in accordance with the program rules. Looking to CAISO's support of the California cap and trade program within the Energy Imbalance Market and its cooperation with the California Air Resources Board (CARB) as an example, it is clear that centralized market operators can work with air regulators to comprehensively identify electricity importers, quantities of imported energy and associated emissions sidestepping the need to assign backstop liability to market operators.

Ecology must establish specified import requirements to guide the development of centralized market design features that address emissions leakage.

WPTF appreciates Ecology's acknowledgement in the October 12th presentation of the central importance of addressing emissions leakage in the electricity sector. This is a useful signal of Ecology's support for market design features that minimize leakage, but WPTF believes that additional regulatory provisions are needed to provide a framework for these design features.

Both the EDAM design and the evolving Markets+ design address emissions leakage by constraining the attribution of low and non-emitting electricity to Washington and California to electricity that is contracted to load in the relevant state, or electricity that is considered surplus¹. While WPTF generally supports the use of contracts and identification of surplus to address emissions leakage, we believe that Ecology needs to codify these requirements in the program rules. The centralized market approaches to addressing emissions leakage essentially require the market operator to distinguish between different classes of energy, i.e., contracted to load in Washington/not contracted to load in Washington; surplus/not surplus. Without a clear basis in the program rules for these distinctions, WPTF is concerned that the market operators could be vulnerable to accusations that they are discriminating against market participants that offer energy that does not meet these requirements by independently and arbitrarily imposing conditions on electricity imports to Washington that are not supported by program requirements. For this reason, WPTF urges Ecology to adopt additional requirements for specified imports that would provide a legal basis for the market design features that support CCA implementation.

Ecology should define surplus energy.

The EDAM and Markets+ market designs rely on fundamentally different concepts of what constitutes surplus electricity. The EDAM design uses a counter-factual dispatch in which transfers would not be allowed to California or Washington. Only electricity that is not dispatched in the counterfactual run is considered available to be attributed to California and Washington. Implicitly, this approach defines surplus as electricity that is in excess of the load needs of the *entire market footprint outside of California and Washington*. This approach has the effect of giving others states priority access to clean, low-cost electricity. For example, because renewable resources are typically price takers, during periods

¹ EDAM establishes a counterfactual reference pass to identify surplus electricity and enables electricity that is contracted to load in California or Washington to be excluded from the reference pass. Markets+ is anticipated to treat electricity that is contracted to load, or that is identified as surplus to be eligible to be attributed to Washington.

of significant solar generation in the southwest, these resources are likely to be fully dispatched in the counterfactual run, making that energy unavailable to be attributed to California or Washington.

In contrast, the Markets+ approach being developed enables market participants to indicate an energy threshold, above which dispatched energy would be considered surplus, in line with any regulatory requirements adopted by Ecology. WPTF considers the Markets+ approach to be far superior to the CAISO's because it appropriately relies on state regulators to make the policy determination of what constitutes surplus electricity, provides more flexibility and control to resource operators to manage the attribution of electricity to the cap-and-trade states in view of other obligations such as their load needs, procurement mandates and bilateral contracts. In this way, the Markets+ approach enables equal access to clean, low-cost surplus energy for Washington.

WPTF therefore recommends that Ecology adopt a definition of surplus electricity that supports the Markets+ approach. The surplus electricity definition should take into account the different types of low and non-emitting energy, and the different types of market participants. Specifically, we suggest that Ecology distinguish between hydro-electric projects and non-hydroelectric renewable or storage resources. Because the hydro-electric resources in the west are legacy resources owned by utilities or BPA, generation by these resources should be compared to the owner's load to determine available surplus. In contrast, investment in non-hydroelectric and storage resources has occurred mainly in the last 15 years, in response to renewable and clean energy procurement mandates, and by both utilities and independent power producers. WPTF suggests that the definition of surplus for electricity dispatched or discharged by these resources be considered in relation to any procurement mandates established by regulators in the host state and contractual obligations.

WPTF also recommends that Ecology establish additional reporting and documentation requirements related to surplus. We are not suggesting that the actual quantity of surplus energy offered should be verified, but rather that the *process* for how the entity determines the volume of surplus energy be verified. Entities that offer surplus electricity from hydro-electric resources should be required to submit a report, similar to that submitted by Asset-Controlling Suppliers, that provides information on generation owned or contracted by the entity, load and any specified source sales throughout the year. The reporting entity should also provide a qualitative description of how it determines the amount of surplus energy it has available to offer to the market, e.g. through a merit-order dispatch assessment or some other approach.

For utilities that offer surplus electricity from non-hydroelectric renewable or storage resources, the entity should provide a description in its annual GHG report to Ecology of any procurement mandates or any voluntary goals, and the process that the entity uses to determine the volume of energy offered as surplus versus held back for use toward the procurement mandate or goal. Both utilities and independent power producers should be prepared to show documentation, upon request, of all contracts for the offtake of non-hydroelectric renewable or energy storage resources.

Ecology must require identification of electricity dispatched by centralized energy markets and exported from Washington to prevent double counting of this energy.

Within centralized energy markets, energy that is exported from Washington will not be identifiable via an e-tag as would normally occur if the energy was exported via a bilateral transaction, or if the electricity was also exported from the centralized market footprint. Therefore, Ecology should expand the definition of electricity exports to include energy that is dispatched within a centralized market and committed to an entity outside Washington. Ecology should also provide guidance to market operators

to deduct the amount of exported electricity from the amount of Washington generation available to serve Washington load, so that the energy is not double counted.

Ecology should take advantage of the ability of centralized markets to provide accurate and dynamic accounting of GHG emissions associated with unspecified pathway market electricity.

WPTF appreciates that Ecology has included provisions to enable calculation by Ecology of an annual emission factor for unspecified pathway market electricity to be used for reporting by electric power entities. These provisions anticipate that the market operator would provide an annual report to Ecology that indicates all resources that support unspecified pathway market attribution. Ecology would then use this data to calculate an unspecified pathway market electricity emission factor that would be used for reporting by all Washington retail providers that purchase unspecified pathway market electricity. While this approach would accurately capture emissions associated with unspecified market electricity for the year, it would not send the desired market signal to avoid emissions by reflecting differences in the emission factors for unspecified market pathway electricity purchases that occur at different times.

Instead of Ecology calculating the emission factor for unspecified market pathway electricity, Ecology should request that market operators themselves calculate hourly residual emission factors in accordance with a new definition of the residual emission factor in the regulation. Emission factors for individual resources supporting unspecified pathway market electricity could be calculated using data reported to the US Environmental Protection Agency or to the Energy Information Administration, in the same manner as resources that register as specified sources. Each market operator could then calculate the residual emission factor for each hour, and then provide information to each Washington retail provider, and to Ecology, on the volume of unspecified pathway market electricity purchased in each hour and the relevant emission factor for that hour.

In addition, WPTF also recommends that Ecology direct market operators to use a shaped emission factor to calculate the GHG adder used in the optimization algorithm to determine the volume of any unspecified market pathway electricity attributed to Washington. Over time, the market operators can be reasonably expected to develop accurate forecasts of the dispatch of resources in each hour, so that a true marginal emission factor could be used in the GHG adder. In the short term, Ecology should request that the market operator set three different emission factors (i.e. low, mid and high) and select the emission factor to be used in each period based on forecast market conditions.

WAC 173-441-124 Calculation methods for electric power

entities. This section establishes the scope of reportable energy and GHG emissions under this chapter and GHG emissions calculation methods for electric power entities. Owners and operators of electric power entities must follow the requirements of this section to determine if they are required to report under WAC 173-441-030(3). Owners and operators of electric power entities that are subject to this chapter must follow the requirements of this section when calculating emissions. If a conflict exists between a provision in WAC 173-441-010 through 173-441-110 and 173-441-140 through 173-441-170 and any applicable provision of this section, the requirements of those sections must take precedence.

(1) **General requirements.** An owner or operator of an electric power entity subject to the requirements of this chapter must report GHG emissions, including GHG emissions from biomass, from all applicable categories listed in (a) of this subsection using the methods and procedures in this section.

(a) Electric power entity categories:

(i) Electricity importers and exporters, as defined in this

section;

(ii) Retail providers, including multijurisdictional retail providers, as defined in this section;

(iii) Asset controlling suppliers;

(iv) Electric generating facilities in Washington state must report using the methods specified in WAC 173-441-120.

(b) The calculation methods for voluntary reporting in WAC 173-441-120(3) apply, except calculation methods in WAC 173-441-120 (3) (b) take precedence over the methods from WAC 173-441-120 (3) (a).

(c) Alternative calculation methods approved by petition. An owner or operator may petition ecology to use calculation methods other than those specified in this section to calculate its electric power entities GHG emissions. Such alternative calculation methods must be approved by ecology prior to reporting and must meet the requirements of WAC 173-441-140.

(2) **Definitions specific to electric power entities.** The definitions in this subsection apply throughout this section unless the context clearly requires otherwise.

(a) "Centralized electricity market" means an electricity

market organized and operated by a market operator and approved by the Federal Energy Regulatory Commission to provide wholesale electricity to market participants through a system of bidding and generation resource offers that are used to determine the dispatch of electricity from market participants. Examples of existing and proposed centralized electricity markets include the energy imbalance market and extended day ahead market operated by the California ISO, and the Markets Plus market operated by the Southwest Power Pool.

~~(b) "Designated Market Importer" means the market~~
~~(c) participant that is assigned by the market operator and meets~~
~~(d)~~
~~(e) the requirements of this section to take on the responsibility~~
~~(f)~~
~~(g) of meeting reporting and compliance obligations for an~~
~~electricity transaction from a centralized electricity market.~~

Commented [CB1]: Do not need new term. Instead define new classes of electricity importers.

~~(h)~~ (b) "Direct delivery of electricity" means electricity that meets any of the following criteria: The facility has a first point of interconnection at a Washington scheduling point or within a Balancing Authority Area located entirely in Washington power system; The electricity is scheduled for

Commented [CB2]: Power system is not defined. In keeping with electricity importer definitions, this should be BAA located in Washington.

point or a power system via a continuous physical transmission path from interconnection of the facility in the balancing authority in which the facility is located to the Washington scheduling point or balancing authority area located entirely within Washington state ~~power system~~; or there is an agreement to dynamically transfer electricity from the facility to a Washington scheduling point or balancing authority area located entirely in Washington state ~~or power system~~, or the facility has a first point of interconnection within a centralized electricity market and electricity from that facility is attributed to Washington by the centralized electricity market.

Commented [CB3]: Added to cover electricity attributed to Washington by centralized market.

(i)(c) "Electricity exporter" means electric power entities that deliver exported electricity. For electricity scheduled with an e-tag, ~~the~~ the entity that exports electricity is identified on the e-tag as the purchasing-selling entity (PSE) on the last segment of the tag's physical path, with the point of receipt located inside Washington state and the point of delivery located outside Washington state. For electricity that is exported from a designated scheduling point in the balancing authority area of a federal power marketing administration, the

exporter is the purchasing-selling entity at the first point of the physical path of the e-tag that is not the generation source. For electricity under a specified contract to a centralized electricity market participant located outside Washington, the exporter is the market participant that that submits the resource offer for the electricity.

(j)(d) "Electricity generating facility" means a facility that generates electricity and includes one or more generating units at the same location.

(k)(e) "Electricity importer" means:

(i) For electricity that is scheduled with an e-tag to a final point of delivery into a balancing authority area located entirely within Washington state, the electricity importer is identified on the e-tag as the purchasing-selling entity on the last segment of the tag's physical path with the point of receipt located outside Washington state and the point of delivery located inside Washington state;

(ii) For facilities physically located outside Washington state with the first point of interconnection to a balancing authority area located entirely within Washington state when the electricity is not scheduled on an e-tag, the electricity

Commented [CB4]: Electricity contracted elsewhere should not be treated as serving Washington load.

importer is the facility operator or owner;

(iii) For electricity from a specified source imported through attributed to Washington by a centralized electricity market, the electricity importer is the market participant that offered the electricity to the market- ~~designated market importer;~~

(iv) For electricity from an unspecified source offered at the border of a centralized market and attributed to Washington by the centralized electricity market, the electricity importer is the market participant that offered the electricity to the market'

~~(iii)~~ (v) For unspecified pathway market electricity attributed to Washington by a centralized electricity market, the electricity importer is the Washington retail provider located in Washington that purchased the electricity;

~~(iv)~~ (vi) For electricity from facilities allocated to serve retail electricity customers of a multijurisdictional electric company, the electricity importer is the multijurisdictional electric company;

Commented [CB5]: This could occur if unspecified electricity was offered into a centralized market at a market intertie (such that the generation source) is located outside the market footprint.

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Commented [CB6]: If a market design does not provide for unspecified pathway market electricity, this definition would not apply.

~~(v)~~ (vii) If the importer identified under (fe) (i) of this subsection is a federal power marketing administration over which Washington state does not have jurisdiction, and the federal power marketing administration has not voluntarily elected to comply with this chapter, then the electricity importer is the next purchasing-selling entity in the physical path on the e-tag, or if no additional purchasing-selling entity over which Washington state has jurisdiction, then the electricity importer is the electric utility that operates the Washington state transmission or distribution system, or the generation balancing authority;

~~(vi)~~ (viii) For electricity that is imported into the state by a federal power marketing administration and sold to a public body or cooperative customer or direct service industrial customer located in Washington state pursuant to section 5 (b) or (d) of the Pacific Northwest Electric Power Planning and Conservation Act of 1980, P.L. 96-501 including specified electricity attributed to Washington by a centralized electricity market, the electricity importer is the federal marketing administration;

~~(vii)~~ (ix) If the importer identified under ~~(fe)~~ (vii) of this subsection has not voluntarily elected to comply with this chapter, then the electricity importer is the public body or cooperative customer or direct service industrial customer;

~~(viii)~~ (x) For electricity that is imported into the state to a designated scheduling point inside the balancing authority area of a federal power marketing administration, the importer is the purchasing-selling entity on the e-tag at the last point on the physical path that is not the sink;

~~(ix)~~ (xi) If the importer identified under (c) (vii) of this subsection is a federal power marketing administration that has not elected to voluntarily comply with this chapter, then the importer is the retail provider with which the scheduling point is associated; or

~~(x)~~ (xii) For electricity from facilities allocated to a consumer-owned utility inside Washington state from a multijurisdictional consumer-owned utility, the electricity importer is the consumer-owned utility inside Washington state.

~~(i)~~ (f) "Electricity transaction" means the purchase,

sale, ~~import, export~~ or exchange of electric power.

~~(m)~~ (g) "Energy imbalance market" or "EIM" means the western energy imbalance market operated by the California independent system operator.

~~(n)~~ (h) "E-tag" means an energy tag representing transactions on the North American bulk electricity market scheduled to flow between or across balancing authority areas and to and from locations listed in an affiliated registry, as represented in a manner and form created by the North American Electric Reliability Corporation and as maintained by the North American Energy Standards Board or a successor organization.

~~(o)~~ (i) "Exported electricity" means electricity generated inside Washington state and delivered to serve load located outside Washington state. This includes electricity delivered from a first point of receipt inside Washington state, to the first point of delivery outside Washington state, with a final point of delivery outside Washington state. Exported electricity delivered across balancing authority areas ~~is~~ may be documented on e- tags with the first point of receipt located inside Washington state and the final point of delivery located outside

Commented [CB7]: Suggest deleting these terms, because imports and exports occur in response to electricity purchases and sales.

Washington state. Exported electricity includes electricity generated in Washington, dispatched by a centralized electricity market, and sold under a specified source contract to a market participant outside Washington. Exported electricity does not include electricity generated inside Washington state then transmitted outside of Washington state, but with a final point of delivery inside Washington state. Exported electricity does not include electricity generated inside Washington state that is allocated to serve Washington state retail customers of a multijurisdictional retail provider, consistent with a cost allocation methodology approved by the Washington state utilities and transportation commission and the utility regulatory commission of at least one additional state in which the multijurisdictional retail provider provides retail electric service.

(j) "Extended Day Ahead Market" means the extended day ahead market operated by the California independent system operator.

(k) "Final point of delivery" means the sink specified on the e-tag, where defined points have been

established through the affiliated registry. When e-tags are
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Commented [CB8]: Do we need to account for the possibility of unspecified exports by individual entities to enable netting?

not used to document electricity deliveries, as may be the case within a balancing authority or centralized electricity market, the final point of delivery is the location of the load. Exported electricity is disaggregated by the final point of delivery ~~on the e-tag~~.

~~(s)~~(l) "First point of delivery in Washington" means, for electricity that is scheduled with an e-tag, the first defined point on the transmission system located inside Washington state at which imported electricity may be measured, consistent with defined points that have been established through the affiliated registry.

~~(s)~~(m) "First point of receipt" means the generation source specified on the e-tag, where defined points have been established through the affiliated registry. When e-tags are not used to document electricity deliveries, as may be the case within a balancing authority or centralized electricity market, the first point of receipt is the location of the individual generating facility or unit, or group of generating facilities or units.

~~(t)~~(n) "Generation providing entity" or "GPE" means a

facility or generating unit operator, full or partial owner, party to a contract for a fixed percentage of net generation from the facility or generating unit, party to a tolling agreement with the owner, or exclusive marketer for the facility or generating unit recognized by ecology.

~~(u) "Grid" or "electric power grid" means a system of synchronized power providers and consumers connected by transmission and distribution lines and operated by one or more control centers.~~

Commented [CB9]: This term is not used in the regulation. Suggest deleting.

~~(o)~~ "Imported electricity" means electricity generated outside Washington state with a final point of delivery within the state.

~~(p)~~ "Imported electricity" includes electricity attributed to Washington by a ~~from~~ centralized electricity market.

(ii) "Imported electricity" includes imports from linked jurisdictions, but such imports shall be construed as having no emissions.

(iii) Electricity from a system that is marketed by a federal power marketing administration shall be construed as "imported electricity," not electricity generated in Washington

state.

(iv) "Imported electricity" does not include electricity imports of unspecified electricity that are netted by exports of unspecified electricity to any jurisdiction not covered by a linked program by the same entity within the same hour.

(v) For a multijurisdictional electric company, "imported electricity" means electricity, other than from in-state facilities, that contributes to a common system power pool. Where a multijurisdictional electric company has a cost allocation methodology approved by the Washington state utilities and transportation commission, the allocation of specific facilities to Washington state's retail load will be in accordance with that methodology.

(vi) For a multijurisdictional consumer-owned utility, "imported electricity" includes electricity from facilities that contribute to a common system power pool that are allocated to a consumer-owned utility inside Washington state pursuant to a methodology approved by the governing board of the consumer-owned utility.

~~(*)~~ (g) "Last point of delivery in Washington" means for

electricity that is scheduled with an e-tag, the last defined point on the transmission system located inside Washington state at which exported electricity may be measured, consistent with defined points that have been established through the North American Energy Standards Board Electric Industry Registry.

(r) "Market Attribution", or "attribution", means assignment of electricity generated outside Washington to Washington by the optimization algorithm of a centralized electricity market.

~~(y)~~(s) "Marketer" means a purchasing-selling entity that delivers electricity and is not a retail provider.

~~(z)~~(t) "Market Operator" means the legal entity that operates and maintains a centralized electricity market.

~~(aa)~~(u) "Market Participant" means an electric power entity that has an agreement with a centralized electricity market operator and participates in that centralized electricity market in accordance with rules and procedures of the relevant market, as well as with an approved tariff that governs the operations of the centralized electricity market.

~~(bb)~~ (v) "Markets plus" or "Markets +" means the Markets+ centralized electricity day ahead market operated by the Southwest Power Pool.

~~(ee)~~ (w) "Multijurisdictional consumer-owned utility" means an electric generation and transmission cooperative owned by a collection of consumer-owned utilities in multiple states or a consumer-owned utility that provides electricity to member owners in Washington state and in one or more other states in a contiguous service territory or from a common power system.

~~(dd)~~ (x) "Multijurisdictional electric company" means an investor-owned utility that provides electricity to customers in Washington state and in one or more other states in a contiguous service territory or from a common power system.

~~(ee)~~ (y) "Multijurisdictional retail provider" means a:

- (i) Multijurisdictional electric company; or
- (ii) Multijurisdictional consumer-owned utility.

(aa) "Point of delivery" means a point on the electricity transmission or distribution system where a deliverer makes electricity available to a receiver, or available to serve load.

This point may be an interconnection with another system or a substation where the transmission provider's transmission and

distribution systems are connected to another system, or a distribution substation where electricity is imported into the state over a multijurisdictional retail provider's distribution system.

(bb) "Point of receipt" or "POR" means the point on an electricity transmission or distribution system where an electricity receiver receives electricity from a deliverer. 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.

(cc) "Power" means electricity, except where the context makes clear that another meaning is intended.

(dd) "Power contract" or "written power contract," as used for the purposes of documenting specified versus unspecified sources of imported and exported electricity, means a written document, including associated verbal or electronic records if included as part of the written power contract, arranging for the sale or procurement of electricity. Power contracts may be, but are not limited to, power purchase agreements, enabling agreements, electricity transactions, and tariff provisions,

Commented [CB10]: Additional clarity is needed with respect to whether contractual requirements pertain to purchases from generators and intermediaries, or sales to retail providers.

without regard to duration, or written agreements to import or export on behalf of another entity, as long as that other entity also reports to ecology the same imported or exported electricity. A power contract for procurement of a specified source is a contract that is contingent upon delivery of power from a particular facility, unit, or asset-controlling supplier's system that is designated at the time the transaction is executed.

Commented [CB11]: In this case the contract refers to that with the generator (or intermediaries) not with load.

(ee) "Purchasing-selling entity" or "PSE" means the entity that is identified on an e-tag for each physical path segment.

(ff) "Residual centralized market emission factor" or "residual emission factor" means the emissions factor calculated by the market operator and representing the generation-weighted average emission factor of all resources aggregated into a common pool available as unspecified market pathway electricity. The residual emission factor is used to calculate, and report covered emissions associated with imports of unspecified market pathway electricity.

(ff bis) "Retail end use customer" or "retail end user" means a residential, commercial, agricultural, or industrial electric

customer who buys electricity to be consumed as a final product and not for resale.

(gg) "Retail provider" means any of the following:

(i) An electric utility as defined in RCW 19.405.020(14);

(ii) Multijurisdictional retail providers;

(iii) Multijurisdictional consumer-owned utilities.

(hh) "Retail sales" means electricity sold to retail end users.

(ii) "Specified source of electricity" or "specified source" means a facility, unit, or asset controlling supplier that is permitted to be claimed as the source of electricity delivered.

For electricity that is scheduled with an e-tag. The reporting entity must have either full or partial ownership in the facility or a written power contract to procure electricity generated by that facility or unit or from an asset controlling supplier at the time of entry into the transaction to procure electricity.

For electricity from a resource dispatched by a centralized electricity market, the reporting entity must indicate in the offer of the electricity to the market that the electricity is available to serve load in Washington. Electricity reported as specified source must be contracted to a Washington retail

Commented [CB12]: Added for clarity.

Commented [CB13R12]: This is central to both tariffs and should be included in the rule.

provider or must be surplus electricity.

Commented [CB14]: Added to provide regulatory basis to restrictions within centralized markets on amount of energy that may be attributed to serve load in Washington.

(jj) "Sink" or "sink to load" or "load sink" means the sink identified on the physical path of e-tags, where defined points have been established through the affiliated registry. Exported electricity is disaggregated by the sink on the e-tag, also referred to as the final point of delivery on the e-tag.

(kk) "Source of generation" or "generation source" means the generation source identified on the physical path of e-tags, where defined points have been established through the affiliated registry. Imported electricity and wheels are disaggregated by the source on the e-tag, Source of generation is also referred to as the first point of receipt.

Commented [CB15]: Only where scheduled with an e-tag.

(ll) "Surplus electricity" or "surplus" means an amount of electricity generated by a resource located outside of Washington in excess of the resource's obligations to provide electricity to entities outside of Washington.

(i) Electricity generated by a hydroelectric resource is considered surplus plus when the amount of generation is in excess of any generation used to serve the entity's load and any

specified source sales

(ii) Electricity generated by a non-hydroelectric renewable resource or discharged by non-hydroelectric storage resource is considered surplus when the electricity is in excess of the volume needed to comply with any mandates for procurement of renewable or non-emitting electricity as established by the jurisdiction in which the resource is located, or voluntary goals, and any specified source sales from the resource.

~~"Tolling agreement" means an agreement whereby a party rents a power plant from the owner. The rent is generally in the form of a fixed monthly payment plus a charge for every megawatt generated, generally referred to as a variable payment.~~

Commented [CB16]: Not used, suggest deletion.

(mm) Unspecified pathway emission factor means the emission factor used by the market operator in the optimization algorithm to determine the volume of unspecified pathway market electricity attributed to Washington. An unspecified pathway emission factor is determined by the market operator to reasonably represent the supply of resources dispatched in the common pool at the time of attribution.

Commented [CB17]: Providing for possibility of a dynamic or shaped emission factor.

(mm bis) "Unspecified pathway market electricity" means electricity ~~derived~~ attributed to Washington ~~from~~ by a centralized electricity market_ where, as part of the market's

design, some portion of the generation resources serving that market ~~is not eligible or available as specified sources of electricity and instead have been~~ aggregated into a common electricity pool and ~~are may be attributed to Washington then assigned or offered to market participants as an~~ unspecified source of electricity.

(nn) "Unspecified source of electricity" or "unspecified source" means a source of electricity that is not a specified source at the time of entry into the transaction to ~~sell or~~ procure ~~the~~ electricity.

(3) **Data requirements and calculation methods.** The electric power entity who is required to report under WAC 173-441-030 (3) of this chapter must comply with the following requirements.

(a) General requirements and content for GHG emissions data reports for electricity importers and exporters.

(i) Greenhouse gas emissions. The electric power entity must report GHG emissions separately for each category of delivered electricity required, in metric tons of CO₂ equivalent (MT of CO₂e), with biogenic CO₂ reported separately, according to the calculation methods in this section.

(ii) Delivered electricity. The electric power entity must

report imported and exported electricity that is scheduled with an e-tag in MWh disaggregated by first point of receipt (POR) or final point of delivery, as applicable, and must also separately report imported and exported electricity from unspecified sources, ~~centralized electricity markets~~, and from each specified source. First points of receipt and final points of delivery (POD) must be reported using the standardized code used in e-tags, as well as the full name of the POR/POD. The electric power entity must separately report, as applicable, specified source electricity and unspecified source electricity attributed to Washington by a centralized electricity market, and purchased unspecified pathway market electricity.

(iii) Imported electricity that is scheduled with an e-tag

(A) Delivered Electricity from unspecified sources. When reporting imported electricity delivered from unspecified sources, the electric power entity must report for each first point of receipt the following information:

- (A) Whether the first point of receipt is located in a linked jurisdiction published on the ecology website;
- (B) The amount of electricity from unspecified sources as measured at the first point of delivery in Washington state;
- (C) The amount of electricity imports of unspecified

Commented [CB18]: The provisions that immediately follow are not applicable to centralized market imports, thus clarified to apply only to tagged imports.

electricity that are netted by exports of unspecified electricity to any jurisdiction not covered by a linked program by the same entity within the same hour.

(D) The net amount of imported unspecified electricity after taking into account the requirements in (a)(iii)(C) of this subsection.

(E) GHG emissions, including those associated with transmission losses, as required in this section.

~~(F) When If the unspecified power was obtained from the energy imbalance market a centralized electricity market.~~

(B) Delivered electricity from specified 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. An electric power entity must report imported electricity as from a specified source when the electricity power entity is a GPE of that facility. When reporting imported electricity from specified facilities or units, the electric power entity must disaggregate electricity deliveries and associated GHG emissions by facility

or unit and by first point of receipt, as applicable. The reporting entity must also report total GHG emissions and MWh from specified sources and the sum of emissions from specified sources explicitly listed as not covered in chapter 70A.65 RCW, as described in chapter 173-446 WAC. Seller Warranty: The sale or resale of specified source electricity is permitted among entities on the e-tag market path insofar as each sale or resale is for specified source electricity in which sellers have purchased and sold specified source electricity, such that each seller warrants the sale of specified source electricity from the source through the market path. Claims of specified sources of imported electricity, must include the following information:

(A) Measured at busbar. The amount of imported electricity from specified facilities or units as measured at the busbar; and

(B) Not measured at busbar. If the amount of imported electricity deliveries from specified facilities or units as measured at the busbar is not provided, report the amount of imported electricity as measured at the first point of delivery in Washington state, including estimated transmission losses as

busbar is not known.

~~(C) Imported electricity from a centralized electricity market. The reporting electric power entity must separately report electricity transacted or delivered through or on behalf of attributed by centralized electricity markets, consistent with information provided by the market operator. Imported specified electricity must be separately reported for each, itemized by transaction and by originating centralized market, and separately for each specified source. Unspecified source electricity and unspecified market pathway electricity must be separately reported and disaggregated by centralized market. -~~

Commented [CB19]: Imports are reported by hourly volumes, not by individual transactions

~~(i) Each electric power entity serving as a designated market importer must calculate, report, and cause to be verified on an annual basis the greenhouse gas emissions associated with the electricity for each electricity transaction in which the electric power entity has been assigned the role of designated market importer.~~

Commented [CB20R19]: While individual importers of specified imports may offer different resources into two or more centralized markets, retail providers who purchase and report unspecified imports will participate in only one centralized market.

Commented [CB21]: Addressed in documentation for verification

~~(C) An electric power entity is a designated market importer for an electricity transaction if a market operator designates, deems, attributes, or otherwise assigns to that electric power entity the responsibility for an electricity transaction that represents a transfer of electricity for~~

~~delivery to Washington on behalf of the market operator and in accordance with the protocols, procedures, and methodologies put in place by the relevant centralized electricity market.~~

Commented [CB22]: Addressed in definition of electricity importer.

~~(D) An electric power entity may be assigned the role of (E) designated market importer by the market operator if (F) (G) electric power entity is a market participant in the centralized (H) (I) electricity market from which the relevant electricity (J) (K) (C) transaction is derived.~~

Commented [CB23]: Inappropriately defers determination regarding entity who has carbon obligation to market operator.

~~(L) Electricity transactions for which designated market (M) importers have been assigned are considered to be derived from a (N) (O) specified source if the designated market importer is also a (P) (Q) generation providing entity or if it can be demonstrated that (R) (S) the transaction would otherwise have met the requirements of (T) (U) 3(a) (iv) of this subsection if the electricity was not derived (V) (W) from a centralized electricity market.~~

Commented [CB24]: Inappropriate. While most entities that offer energy in organized markets will meet the definition of GPE and manage their own energy offers, some entities will contract with other companies to manage these offers. The entity that offers electricity from the resource to the market, regardless of whether that is the entity that owns the resource or an entity managing the resource, should bear the reporting and carbon obligation.

~~(X) Electricity from an electricity transaction for which a designated market importers has been assigned may be treated as unspecified pathway market electricity only if the electricity is not eligible to be treated as specified electricity or if it is not possible to identify the resource assigned to supply the electricity through the methodologies and procedures put in place by the market operator.~~

Commented [CB25]: Unspecified pathway market electricity imports will occur, not because a resource can not be identified, but because either there is no eligible specified import supply available, or that supply would be uneconomic (i.e. more expensive) compared to unspecified pathway imports. Definiton of unspecified pathway market electricity edited to clarify.

~~(Y) For any electricity derived from a centralized (Z) (AA) electricity market that is delivered to Washington on behalf of~~

~~(BB)~~

~~(CC) the centralized electricity market and for which no designated~~

~~(DD)~~

~~(EE) market importer has been assigned, the market operator is then~~

~~(FF)~~

~~(GG) the designated market importer for those electricity~~

~~(HH)~~

~~(II) transactions for the purposes of this chapter.~~

~~(JJ)~~ (D) For the energy imbalance market only, and for emissions reporting years 2023 through 2025 only, the retail provider located or operating in Washington that receives a delivery of electricity ~~facilitated through by~~ the energy imbalance market is the ~~designated market~~electricity importer for that electricity for the purposes of this section. ~~For these years only, any conflicting assignment of the designated market importer by the EIM market operator will instead default to the retail provider as put forth in this subsection.~~

Commented [CB26]: This will not occur, as a market operator can identify all market participants that offer specified imports, and all market participants that purchase unspecified power (Washington retail providers).

(iv) Imported electricity supplied by asset-controlling suppliers. The reporting entity must separately report imported electricity supplied by asset-controlling suppliers recognized by ecology. The reporting entity must:

(A) Report the asset-controlling supplier standardized purchasing-selling entity (PSE) acronym or code, full name, and the ecology identification number;

(B) Report asset-controlling supplier power that was not

acquired as specified power, as unspecified power;

(C) Report delivered electricity from asset-controlling suppliers as measured at the first point of delivery in Washington state or by a centralized market; and

(D) Report GHG emissions calculated pursuant to this section, including transmission losses.

(E) To claim power from an asset-controlling supplier, the asset-controlling supplier must be identified in one of the following means:

(I) On the physical path of the e-tag as the PSE at the first point of receipt, or in the case of asset-controlling suppliers that are exclusive marketers, as the PSE immediately following the associated generation owner; or

(II) If there is no e-tag associated with the imported electricity, on a long-term contract that identifies the ACS as the relevant provider of that electricity.

(v) Exported electricity. For electricity scheduled with an e-tag, ~~the~~ electric power entity must report exported electricity in MWh and associated GHG emissions in MT of CO₂e for unspecified sources disaggregated by each final point of

delivery outside Washington state, and for each specified source disaggregated by each final point of delivery outside Washington state. For electricity dispatched by a centralized market, the electric power entity must report exported electricity in MWh and associated GHG emissions in MT of CO₂e for unspecified sources and for each specified source disaggregated by recipient. The electric power entity must also report ~~as well as~~ the following information:

(A) Exported electricity as measured at the last point of delivery located in Washington state, if known. If unknown, report as measured at the final point of delivery outside Washington state.

(B) Do not report estimated transmission losses.

(C) Report whether the final point of delivery is located in a linked jurisdiction published on the ecology website.

(D) Report GHG emissions calculated pursuant to this section.

(vi) Exchange agreements. The electric power entity must report delivered electricity under power exchange agreements consistent with imported and exported electricity requirements

of this section. Electricity delivered into Washington state under exchange agreements must be reported as imported electricity and electricity delivered out of Washington state under exchange agreements must be reported as exported electricity.

(vii) Verification documentation. The electric power entity must retain for purposes of verification documentation of e- tags, written power contracts, settlements data, reports provided by the market operator to the entity regarding electricity attributed to Washington for which that entity is the electricity importer, and all other information required to confirm reported electricity procurements and deliveries pursuant to the recordkeeping requirements of WAC 173-441-050.

(viii) Electricity generating units and cogeneration units in Washington state. Electric power entities that also operate electricity generating units or cogeneration units located inside Washington state that meet the applicability requirements of WAC 173-441-030(1) must report GHG emissions to ecology under WAC 173-441-120.

(ix) Electricity generating units and cogeneration units

outside Washington state. Operators and owners of electricity generating units and cogeneration units located outside Washington state who elect to report to ecology under WAC 173-441-030(5) must fully comply with the reporting and verification requirements of this chapter.

(b) Calculating GHG emissions.

(i) Calculating GHG emissions from unspecified sources.

For electricity from unspecified sources, including electricity attributed by a centralized electricity market, the electric power entity must calculate the annual CO₂ equivalent mass emissions using the following equation:

$$CO_2e = MWh \times TL \times EF_{unsp}$$

Where:

CO₂e = Annual CO₂ equivalent mass emissions from the unspecified electricity deliveries at each point of receipt identified (MT of CO₂e).

MWh = Megawatt-hours of unspecified electricity deliveries at each point of receipt identified.

EF_{unsp} = Default emission factor for unspecified electricity imports.

Commented [CB27]: Included under assumption that an entity could offer unspecified at a centralized market border, and that energy could be attributed to Washington by the optimization.

EFunsp = 0.428 MT of CO₂e/MWh

TL = Transmission loss correction factor.

TL = 1.02 to account for transmission losses between the busbar and measurement at the first point of receipt in Washington.

(ii) Calculating GHG emissions from specified facilities or units. For electricity from specified facilities or units, including electricity attributed by a centralized electricity market, the electric power entity must calculate emissions using the

following equation:

$$\text{CO}_2\text{e} = \text{MWh} \times \text{TL} \times \text{EF}_{\text{sp}} \quad (\text{Eq. 124-1})$$

Where:

- CO₂e = Annual CO₂ equivalent mass emissions from the specified electricity deliveries from each facility or unit claimed (MT of CO₂e).
- MWh = Megawatt-hours of specified electricity deliveries from each facility or unit claimed.
- EF_{sp} = Facility-specific or unit-specific emission factor published on the ecology website and calculated using total emissions and transactions data as described below. The emission factor is based on data from the year prior to the reporting year.
- TL = Transmission loss correction factor.
- TL = 1.02 to account for transmission losses associated with generation outside of a Washington state balancing authority.

TL = 1.0 if the reporting entity provides documentation that demonstrates to the satisfaction of a verifier and ecology that transmission losses have been accounted for, or are compensated by using electricity sourced from within Washington state.

(A) Ecology shall calculate facility-specific or unit-specific emission factors and publish them on the ecology website using the following equation:

$$EF_{sp} = \frac{Esp}{EG} \quad (\text{Eq. 124-2})$$

Where:

Esp = CO₂e emissions for a specified facility or unit for the report year (MT of CO₂e).
EG = Net generation from a specified facility or unit for the report year shall be based on data reported to the Energy Information Administration (EIA).

(B) To register a specified unit(s) source of power, the reporting entity must provide to ecology unit level GHG emissions consistent with the data source requirements of this section and net generation data as reported to the EIA, along with contracts for delivery of power from the specified unit(s) to the reporting entity, and proof of direct delivery of the power by the reporting entity as an import to Washington state.

(I) For specified facilities or units whose operators are subject to this chapter or whose owners or operators voluntarily report under this chapter, Esp shall be equal to the sum of CO₂e emissions reported pursuant to this section.

(II) For specified facilities or units whose operators are not subject to reporting under this chapter or whose owners or operators do not voluntarily report under this chapter, but are subject to the U.S. EPA GHG Mandatory Reporting Regulation, Esp shall be based on GHG emissions reported to U.S. EPA pursuant to 40 C.F.R. Part 98. For GHG emissions reported to U.S. EPA pursuant to 40 C.F.R. Part 98, if it is not possible to isolate the emissions that are directly related to electricity production, ecology may calculate Esp based on EIA data. Emissions from combustion of biomass-derived fuels will be based on EIA data until such time the emissions are reported to U.S. EPA.

(III) For specified facilities or units whose operators are not subject to reporting under this chapter or whose owners or operators do not voluntarily report under this chapter, nor are subject to the U.S. EPA GHG Mandatory Reporting Regulation, Esp is calculated using heat of combustion data reported to the Energy Information Administration (EIA) as shown below.

$$\text{Esp} = 0.001 \times \Sigma(Q \times \text{EF}) \quad (\text{Eq. 124-3})$$

Where:

$$0.001 = \text{Conversion factor kg to MT}$$

- Q = Heat of combustion for each specified fuel type from the specified facility or unit for the report year (MMBtu). For cogeneration, Q is the quantity of fuel allocated to electricity generation consistent with EIA reporting. For geothermal electricity, Q is the steam data reported to EIA (MMBtu).
- EF = CO₂e emission factor for the specified fuel type as required by this chapter (kg CO₂e/MMBtu). For geothermal electricity, EF is the estimated CO₂ emission factor published by EIA.

(IV) Facilities or units will be assigned an emission factor by the ecology based on the type of fuel combusted or the technology used when a U.S. EPA GHG Report or EIA fuel consumption report is not available, including new facilities and facilities located outside the U.S.

(V) Meter data requirement. For verification purposes, electric power entities shall retain meter generation data to document that the power claimed by the reporting entity was generated by the facility or unit at the time the power was directly delivered.

(VI) A lesser of analysis is applicable to imports from specified sources for which ecology has calculated an emission factor of zero, and for imports from Washington renewable portfolio standard (RPS) eligible resources, excluding the following: Dynamically tagged power deliveries; electricity that

is not scheduled with an e-tag; nuclear power; asset controlling supplier power; and imports from hydroelectric facilities for which an entity's share of metered output on an hourly basis is not established by power contract. A lesser of analysis is required pursuant to the following equation:

$$\text{Sum of Lesser of MWh} = \frac{\sum \text{HMsp min (MGsp*Ssp, TGsp)}}{\text{TGsp}} \quad (\text{Eq. 124-4})$$

Where:

- $\sum \text{HMsp}$ = Sum of the Hourly Minimum of MGsp and TGsp (MWh).
- MGsp = Metered facility or unit net generation (MWh).
- Ssp = Entity's share of metered output, if applicable.
- TGsp = Tagged or transmitted energy at the transmission or subtransmission level imported to Washington (MWh).

(iii) Calculating GHG emissions of imported electricity supplied by asset-controlling suppliers. Based on annual reports submitted to ecology pursuant to WAC 173-441-070(3), ecology will calculate and publish on the ecology website the system emission factor for all asset-controlling suppliers recognized by the ecology. The reporting entity must calculate emissions for electricity supplied using the following equation:

$$\text{CO}_2\text{e} = \text{MWh} \times \text{TL} \times \text{EF}_{\text{acs}} \quad (\text{Eq. 124-5})$$

Where:

- CO₂ = Annual CO₂ equivalent mass emissions from the specified electricity deliveries from ecology-recognized asset-controlling suppliers (MT of CO₂e).

Commented [CB28]: A lesser of analysis would not be needed for energy attributed market because the attribution can not exceed dispatch.

- MWh = Megawatt-hours of specified electricity deliveries.
- EFACS = Asset-Controlling Supplier system emission factor published on the ecology website (MT CO₂e/MWh). Ecology will assign the system emission factors for all asset-controlling suppliers based on a previously verified GHG report submitted to ecology pursuant to WAC 173-441-070(3). The supplier-specific system emission factor is calculated annually by ecology. The calculation is derived from data contained in annual reports submitted that have received a positive or qualified positive verification statement. The emission factor is based on data from two years prior to the reporting year.
- TL = Transmission loss correction factor.
- TL = 1.02 when deliveries are not reported as measured at a first point of receipt located within the balancing authority area of the asset-controlling supplier.
- TL = 1.0 when deliveries are reported as measured at a first point of receipt located within the balancing authority area of the asset-controlling supplier.

Ecology must calculate the system emission factor for asset-controlling suppliers using the following equations:

$$\text{EFACS} = \frac{\text{Sum of System Emissions MT of CO}_2\text{e}}{\text{Sum of System MWh}} \quad (\text{Eq. 124-6})$$

$$\text{Sum of System Emissions, MT of CO}_2\text{e} = \Sigma\text{Easp} + \Sigma(\text{PEsp} * \text{EFsp}) + \Sigma(\text{PEunsp} * \text{EFunsp}) - \Sigma(\text{SEsp} * \text{EFsp}) \quad (\text{Eq. 124-7})$$

$$\text{Sum of System MWh} = \Sigma\text{EGasp} + \Sigma\text{PEsp} + \Sigma\text{PEunsp} - \Sigma\text{SEsp} \quad (\text{Eq. 124-8})$$

Where:

$$\Sigma\text{Easp} = \text{Emissions from owned facilities. Sum of CO}_2\text{e emissions from each specified facility/unit in the asset-controlling supplier's fleet (MT of CO}_2\text{e).}$$

- ΣEGasp = Net generation from owned facilities. Sum of net generation for each specified facility/unit in the asset-controlling supplier's fleet for the data year as reported to ecology under this chapter (MWh).
- PEsp = Electricity purchased from specified sources. Amount of electricity purchased wholesale and taken from specified sources by the asset-controlling supplier for the data year as reported to ecology under this chapter (MWh).
- PEunsp = Electricity purchased from unspecified sources. Amount of electricity purchased wholesale from unspecified sources by the asset-controlling supplier for the data year as reported to ecology under this chapter (MWh).
- SEsp = Electricity sold from specified sources. Amount of wholesale electricity sold from specified sources by the asset-controlling supplier for the data year as reported to ecology under this chapter (MWh).
- EFsp = CO₂e emission factor as defined for each specified facility or unit calculated consistent with (b)(ii) of this subsection (MT CO₂e/MWh).
- EFunsp = Default emission factor for unspecified sources calculated consistent with (b)(i) of this subsection (MT CO₂e/MWh).

(iv) Calculating GHG emissions of imported electricity for multijurisdictional retail providers. Multijurisdictional retail providers must include emissions and megawatt-hours in the terms below from facilities or units that contribute to a common system power pool. Multijurisdictional retail providers do not include emissions or megawatt-hours in the terms below from facilities or units allocated to serve retail loads in

designated states pursuant to a cost allocation methodology approved by the Washington state utilities and transportation commission and the utility regulatory commission of at least one additional state in which the multijurisdictional retail provider provides retail electric service. For multijurisdictional consumer-owned utilities, the cost allocation methodology must be approved by its governing board. Multijurisdictional retail providers must calculate emissions that have a compliance obligation using the following equation:

$$CO_2e = \frac{(MWhR \times TLR - MWhWSP-WA - EGWA) \times EFMJRP-notWA + MWhSP-notWA \times TLWSP \times EFUnsp}{- CO_2e \text{ linked}} \quad (\text{Eq. 124-9})$$

Where:

- CO_{2e} = Annual CO_{2e} mass emissions of imported electricity (MT of CO_{2e}).
- MWhR = Total electricity procured by multijurisdictional retail provider to serve its retail customers in Washington, reported as retail sales for Washington state service territory, MWh.
- MWhWSP-WA = Wholesale electricity procured in Washington state by multijurisdictional retail provider to serve its retail customers in Washington state, as determined by the first point of receipt on a e-tag and pursuant to a cost allocation methodology approved by the Washington state utilities and transportation commission (UTC) and the utility regulatory commission of at least one additional state in which the multijurisdictional retail provider provides retail electric service, MWh. For multijurisdictional consumer-owned utilities, the cost allocation methodology must be approved by its governing board.
- MWhWSP-not WA = Wholesale electricity imported into Washington state by multijurisdictional retail provider with a final point of delivery in Washington state and not used to serve its Washington state retail customers, MWh.

EFMJRP-not WA	=	Multijurisdictional retail provider system emission factor for out-of-state generation calculated by ecology and consistent with a cost allocation methodology approved by the Washington state utilities and transportation commission and the utility regulatory commission of at least one additional state in which the multijurisdictional retail provider provides retail electric service. For multijurisdictional consumer-owned utilities, the cost allocation methodology must be approved by its governing board.
EFunsp	=	Default emission factor for unspecified sources calculated consistent with this section (MT CO ₂ e/MWh).
EGWA	=	Net generation measured at the busbar of facilities and units located in Washington state that are allocated to serve its retail customers in Washington state pursuant to a cost allocation methodology approved by the Washington state utilities and transportation commission and the utility regulatory commission of at least one additional state in which the multijurisdictional retail provider provides retail electric service, MWh. For multijurisdictional consumer-owned utilities, the cost allocation methodology must be approved by its governing board.
TL	=	Transmission loss correction factor.
TL WSP	=	1.02 for transmission losses applied to wholesale power.
TL R	=	Estimate of transmission losses from busbar to end user reported by multijurisdictional retail provider.
CO ₂ e linked	=	Annual CO ₂ e mass emissions recognized by ecology pursuant to linkage under chapter 70A.65 RCW, as described in chapter 173-446 WAC (MT of CO ₂ e).

Commented [CB29]: Ecology should clarify how centralized market sales and purchases by a MJRP are treated for purposes of this calculation.

(v) ~~(vi)~~ Calculating GHG emissions of imported unspecified pathway market electricity ~~supplied attributed~~ by centralized electricity markets. For unspecified pathway market electricity from centralized electricity markets, the reporting electricity power entity must calculate emissions using these methods. To support these methods ecology will allow request market operators to ~~submit information pursuant to WAC 173-441-124 (3) (g) and (h), and calculate and publish on the ecology website an unspecified pathway emission factors for each centralized electricity market~~

~~that offers unspecified pathway market electricity~~ the volume of unspecified pathway market electricity purchased by Washington retail providers in each hour, and the residual emissions factor for this electricity and to provide that information to Washington retail providers and Ecology. The market operator should also provide documentation to Ecology on the method used to calculate residual emission factors for unspecified pathway market electricity, and the emission factors for all resources comprising the common electricity pool. The reporting entity must calculate emissions for electricity supplied from each centralized electricity market, with each centralized electricity market total reported separately, using the following equation:

$$\sum \text{CO}_2\text{e} = \frac{\sum (\text{PEsp} * \text{Efsp})}{\text{EF}_{\text{CMUP}}} + \sum (\text{Peunsp} * \text{EF}_{\text{CMUP}})$$

Where:

- CO₂ = Annual CO₂ equivalent mass (Eq. 124-?) emissions from ~~attributed unspecified pathway market electricity deliveries~~ from each centralized electricity market (MT of CO₂e).
- PEsp = ~~Electricity purchased from resources assigned by the market operator that are also identified as specified sources pursuant to WAC Amount of electricity purchased from resources identified as specified sources for the data year as reported to ecology under this chapter (MWh).~~
- Peunsp = ~~Unspecified pathway market E~~electricity purchased by each Washington retail provider, as calculated by the market operator, ~~from sources listed by the market operator but not requested as specified sources under this chapter. Amount of electricity purchased to serve the unspecified electricity pathway for the data year as reported to ecology under this chapter (MWh).~~

Commented [CB30]: Reporting of specified imports, including from centralized markets, is addressed elsewhere.

~~EF_{Unsp} = CO₂e emission factor as defined for each specified facility or unit calculated consistent with (b)(ii) of this subsection (MT CO₂e/MWh).~~

Commented [CB31]: Not used in formula.

EF_{CMUP} = Centralized market unspecified pathway emission factor for the hour, as calculated by the market operator for the applicable centralized electricity market and published on the ecology website (MT CO₂e/MWh) for the applicable centralized electricity market ~~for the applicable emissions year.~~

~~If a~~ Each market operator for a centralized electricity market ~~submits an annual report pursuant to WAC 173-441-124 (3) (h) ecology will should~~ calculate the unspecified pathway residual emission factor for each hour that centralized electricity market using the following equation:

$$EF_{CMUP} = \frac{\text{Sum of Resources Serving Unspecified Pathway Emissions MT of CO}_2}{\text{Sum of Unspecified Pathway MWh}} \quad (\text{Eq. 124-?})$$

Commented [CB32]: The emission factor for each hour should be calculated based on generation, not purchases. The market operator can determine the emission factor for individual resources supporting unspecified imports in the same way that ecology does for specified imports, or Ecology could provide these value to the market operator.

$$\frac{\text{Sum of Resources Serving Unspecified Pathway Emissions, MT of CO}_2}{\text{Sum of Unspecified Pathway MWh}} = \frac{\Sigma(GE_{RUP} * EF_{RUP}) - \Sigma(PE_{sp} * EF_{sp}) + \Sigma(PE_{Other}) - \Sigma(E_{fre})}{\text{Sum of Unspecified Pathway MWh}} \quad (\text{Eq. 124-?})$$

$$\text{Sum of Unspecified Pathway MWh} = \Sigma GE_{RUP} - PE_{sp} + \Sigma PE_{Other} - \Sigma E_{fre} \quad (\text{Eq. 124-?})$$

Where:

GE_{RUP} = Net generation from each resource comprising the common electricity pool for unspecified pathway market electricity in that hour.

EF_{RUP} = The emission factor for each resource comprising the common electricity pool calculated in accordance with Ecology's method for determining specified source emission factors.

ΣE_{frr}	=	Emissions from owned facilities reported to ecology. Sum of CO ₂ e emissions from each facility/unit in the supplier's fleet that reports to ecology as a facility (MT of CO ₂ e).
ΣEG_{rre}	=	Net generation from the facilities reporting to ecology in E_{mtr} . Sum of net generation for each specified facility/unit reporting to ecology for the data year as reported to ecology under this chapter (MWh).
PE_{sp}	=	Electricity purchased from resources listed by the market operator that are also identified as specified sources pursuant to WAC Amount of electricity purchased from resources identified as specified sources for the data year as reported to ecology under this chapter (MWh).
PE_{unsp}	=	Electricity purchased from sources listed by the market operator but not requested as specified sources under this chapter. Amount of electricity purchased to serve the unspecified electricity pathway for the data year as reported to ecology under this chapter (MWh).
EF_{sp}	=	CO ₂ e emission factor as defined for each specified facility or unit calculated consistent with (b)(ii) of this subsection (MT CO ₂ e/MWh).
EF_{other}	=	CO ₂ e emission factor as calculated for each facility or unit needing emissions data calculated in a manner consistent with (b)(ii) of this subsection (MT CO ₂ e/MWh).

If a market operator ~~chooses not to or~~ fails to ~~submit~~ calculate an annual hourly emission factor for unspecified pathway market electricity imports, the electric power entity shall use the default emission rate to report emissions associated with this imported electricity. ~~report pursuant to WAC 173-441-124(3)(h) then ecology will assign the unspecified pathway electricity emission factor (EF_{CMUR}) to be equal to one metric ton of carbon dioxide~~

Commented [CB33]: This calculation will determine the compliance obligation for retail providers associated with unspecified market imports, which are inherently short-term transactions. In the event that a market operator does not calculate an hourly, residual emission factor, it would be appropriate to use the default emission factor (currently .428) to report those imports, as that value would more closely approximate the average emission factor, rather than a 1.0 emission factor which represents a coal resource.

~~equivalent per megawatt hour (1.0 MT CO₂e/MWh).~~

(c) Additional requirements for retail providers, excluding multijurisdictional retail providers. Retail providers must include the following information in the GHG emissions data report for each report year, in addition to the information identified in (a) (i), (ii), and (vii) of this subsection.

(i) Retail providers must report Washington state retail sales. A retail provider who is required only to report retail sales may choose not to apply the verification requirements specified in WAC 173-441-085, if the retail provider deems the emissions data report nonconfidential.

(ii) Retail providers may elect to report the subset of retail sales attributed to the electrification of shipping ports, truck stops, and motor vehicles if metering is available to separately track these sales from other retail sales.

(iii) Retail providers that report as electricity importers or exporters also must separately report electricity imported from specified and unspecified sources by other electric power entities to serve their load, designating the electricity importer. In addition, all imported electricity

transactions documented by e-tags where the retail provider is the PSE at the sink must be reported.

(iv) Retail providers must report **total** purchases from centralized electricity markets, based on annual totals of electricity purchased in MWh from each separate centralized electricity market.

Commented [CB34]: Purchases of unspecified pathway market electricity are separately reported. 'Total' has been added to clarify that this is total volume purchased, which included specified source imports.

(e) Additional requirements for multijurisdictional retail providers. Multijurisdictional retail providers that provide electricity into Washington state at the distribution level must include the following information in the GHG emissions data report for each report year, in addition to the information identified elsewhere in this section.

(i) A report of the electricity transactions and GHG emissions associated with the common power system or contiguous service territory that includes consumers in Washington state. This includes the requirements in this section as applicable for each generating facility or unit in the multijurisdictional retail provider's fleet;

(ii) The multijurisdictional retail provider must include in its emissions data report wholesale power purchased and taken (MWh) from specified and unspecified sources and wholesale power

sold from specified sources according to the specifications in this section, and as required for ecology to calculate a supplier-specific emission factor;

(iii) Total retail sales (MWh) by the multijurisdictional retail provider in the contiguous service territory or power system that includes consumers in Washington state;

(iv) Retail sales (MWh) to Washington state customers served in Washington state's portion of the service territory;

(v) Retail sales derived from centralized electricity market;

(vi) GHG emissions associated with the imported electricity, including both Washington state retail sales and wholesale power imported into Washington state from the retail provider's system, according to the specifications in this section;

(vii) Multijurisdictional retail providers that serve Washington state load must claim as specified power all power purchased or taken from facilities or units in which they have operational control or an ownership share or written power contract;

(viii) Multijurisdictional retail providers that serve

Washington state load may elect to exclude information listed in this section when registering claims to specified power from facilities located outside Washington state and participating in the Federal Energy Regulatory Commission's PURPA Qualifying Facility program.

(f) Additional requirements for asset-controlling suppliers. Owners or operators of electricity generating facilities or exclusive marketers for certain generating facilities may apply for an asset-controlling supplier designation from ecology. Approved asset-controlling suppliers may request that ecology calculate or adopt a supplier-specific emission factor pursuant to this section. To apply for asset-controlling supplier designation, the applicant must:

(i) Meet the requirements in this chapter, including reporting pursuant as applicable for each generating facility or unit in the supplier's fleet;

(ii) Include in its emissions data report wholesale power purchased and taken (MWh) from specified and unspecified sources and wholesale power sold from specified sources according to the specifications in this section, and as required for ecology to

calculate a supplier-specific emission factor;

(iii) Retain for verification purposes documentation that the power sold by the supplier originated from the supplier's fleet of facilities and either that the fleet is under the supplier's operational control or that the supplier serves as the fleet's exclusive marketer;

(iv) Provide the supplier-specific ecology identification number to electric power entities who purchase electricity from the supplier's system.

(v) To apply for and maintain asset-controlling supplier status, the entity shall submit as part of its emissions data report the following information, annually:

(A) General business information, including entity name and contact information;

(B) List of officer names and titles;

(C) Data requirements as prescribed by ecology;

(D) A list and description of electricity generating facilities for which the reporting entity is a first jurisdiction deliverer; and

(E) An attestation, in writing and signed by an authorized

officer of the applicant, as follows:

(I) "I certify under penalty of perjury under the laws of the State of Washington that I am duly authorized by (name of entity) to sign this attestation on behalf of (name of entity), that (name of entity) meets the definition of an asset-controlling supplier as specified in this section and that the information submitted herein is true, accurate, and complete."

(II) Asset-controlling suppliers must annually adhere to all reporting and verification requirements of this chapter, or be removed from asset-controlling supplier designation. Asset-controlling suppliers will also lose their designation if they receive an adverse verification statement, but may reapply in the following year for redesignation.

(g) Requirements for claims of specified sources of electricity. Each reporting entity claiming specified facilities or units for imported or exported electricity, including designated market importers, must register its anticipated specified sources with ecology as part of their greenhouse gas report to obtain associated emission factors calculated by ecology for use in the emissions data report required to be submitted by the report submission due date in WAC 173-441-050

(2) (a). If an operator fails to register a specified source by source by February 1 for sources used the previous year~~the registration due date in WAC 173-441-060(4)~~, the operator must use the emission factor provided by ecology for a specified facility or unit in the emissions data report required to be submitted by the report submission due date in WAC 173-441-050

(2) (a). Each reporting entity claiming specified facilities or units for imported or exported electricity must also meet requirements in the emissions data report.

(i) Registration information for specified sources. The following information is required:

(A) The facility names and, for specification to the unit level, the facility and unit names.

(B) For sources with a previously assigned ecology identification number, the ecology facility or unit identification number or supplier number published on ecology's website. For newly specified sources, ecology will assign a unique identification number.

(C) If applicable, the facility and unit identification numbers as used for reporting to the U.S. EPA Acid Rain Program,

U.S. EPA pursuant to 40 C.F.R. Part 98, U.S. Energy Information Administration, Federal Energy Regulatory Commission's PURPA Qualifying Facility program, 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 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 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.

(L) Provide the primary technology or fuel type as listed below:

(I) Variable renewable resources by type, defined for purposes of this chapter as pure solar, pure wind, and run-of-river hydroelectricity;

(II) Hybrid facilities such as solar thermal;

(III) Hydroelectric facilities ≤ 30 MW, not run-of-river;

(IV) Hydroelectric facilities ≥ 30 MW;

(V) Geothermal binary cycle plant or closed loop system;

(VI) Geothermal steam plant or open loop system;

(VII) Units combusting biomass-derived fuel, by primary fuel type;

(VIII) Nuclear facilities;

(IX) Cogeneration by primary fuel type;

(X) Fossil sources by primary fuel type;

(XI) Co-fired fuels;

(XII) Municipal solid waste combustion;

(XIII) Other.

(M) Additional information for non-Washington retail providers that

claim specified source imports. The reporting entity must include the following information in its emissions data report

(i) Net generating capacity and technology and fuel type for each generating facility or unit in its fleet;

(ii) Wholesale power purchased and taken (MWh) from specified and unspecified sources and wholesale power sold from specified sources according to the specifications in this section.

(iii) A description of how the entity determines that electricity from any hydroelectric resources, and non-hydroelectric renewable or storage resources is surplus;

(N) Additional information for non-Washington electric power entities that are not resource providers that claim specified source imports from non-hydroelectric renewable or storage resources. The reporting entity must provide a description of how the entity determines that electricity from non-hydroelectric renewable or storage resources is surplus.

~~(N)~~ (O) 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

Commented [CB35]: This is information, similar to what is required for ACS reporting, to enable a verifier and ecology assess whether the entity is appropriately determining surplus energy.

following descriptions applies:

~~(P)~~ (P) Deliveries from new facilities. Specified source of electricity is first registered pursuant to this section 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;

~~(P)~~ (Q) Deliveries from existing facilities with additional capacity. Specified source of electricity is first registered pursuant to this section 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.

~~(ii)~~ (iv) Additional information for market participants of centralized electricity markets for claims of specified sources of electricity. To receive a positive verification statement upon verification ~~of an electricity transaction derived from a~~ for claims of specified imports from a centralized electricity market ~~that attributes a specific resource to that transaction the~~ electric power entity must be able to demonstrate proof to ecology's satisfaction that the market operator ~~designated,~~

Commented [CB36]: Verification should focus on the process for determining the volume offered as specified, not on individual transactions.

~~assigned, deemed attributed, or otherwise assigned that the electricity from resource to that offered by the electric power entity as a designated market importer to Washington. Proof of such attribution may be demonstrated through the provision of records and other information from the market operator listing all market participants that were assigned the role of designated market importer by the market operator. This provision of records and other information must be submitted to ecology in a manner designated by ecology by February 1 for electricity transactions involving centralized electricity markets in the previous calendar year. These requirements may be combined with the report in (3) (h) by a market operator.~~

Commented [CB37]: The general requirements for registration of specified sources also applies for resources in the centralized market. That requirement does not need to be restated here.

~~(h) Requirements for designation of a centralized electricity market unspecified pathway emission rate. A market operator may request that ecology calculate a centralized electricity market unspecified pathway emissions rate for that market by submitting to ecology such a request and the necessary information to establish this rate in accordance with these requirements.~~

Commented [CB38]: Addressed elsewhere.

~~(i) (h) Each centralized market operator must by June 1 of each year~~

Commented [CB39]: This information is provided to Ecology to assist in verification. Market participants will receive information from the market operator immediately after the attribution occurs.

(i) Provide records and other information to ecology listing

~~for the previous calendar year all market participants identified as electricity importers, the volume of imported electricity and, where applicable, separately for each resource. that were assigned to serve electrical load in Washington through the market's attribution algorithms, either directly as designated market importers or indirectly through an unspecified pathway or other pooling technique in which no specific resource is or can be assigned to an electricity transaction.~~

~~(ii) Provide this information to ecology in a manner~~

~~designated by ecology by February 1 for electricity transactions~~

~~involving centralized electricity markets in the previous year.~~

(4) **Recordkeeping.** GHG inventory program for electric power entities that import or export electricity. In lieu of a GHG monitoring plan, electric power entities that import or export electricity must prepare GHG inventory program documentation that is maintained and available for verifier review and ecology audit pursuant to the recordkeeping requirements of this section. The following information is required:

(a) Information to allow the verification team to develop a general understanding of entity boundaries, operations, and

electricity transactions, load obligations and any applicable renewable or clean energy procurement mandates or goals;

(b) Reference to management policies or practices applicable to reporting pursuant to this section;

(c) List of key personnel involved in compiling data and preparing the emissions data report;

(d) Training practices for personnel involved in reporting delivered electricity and responsible for data report certification, including documented training procedures;

(e) Query of e-tag source data to determine the quantity of electricity (MWh) imported, exported, and wheeled for transactions in which they are the purchasing-selling entity on the last physical path segment that crosses the border of Washington state, access to review the raw e-tag data, a tabulated summary, and query description;

(f) Reference to other independent or internal data management systems and records, including written power contracts and associated verbal or electronic records, full or partial ownership, invoices, and settlements data used to document whether reported transactions are specified or

unspecified and whether the requirements for adjustments to covered emissions of chapter 70A.65 RCW, as described in chapter 173-446 WAC are met;

(g) Description of steps taken and calculations made to aggregate data into reporting categories required pursuant to this section;

(h) Records of preventive and corrective actions taken to address verifier and ecology findings of past nonconformances and material misstatements;

(i) Log of emissions data report modifications made after initial certification; and

(j) A written description of an internal audit program that includes emissions data report review and documents ongoing efforts to improve the GHG inventory program.

[Statutory Authority: RCW 70A.15.2200. WSR 22-05-050 (Order 21-07), § 173-441-124, filed 2/9/22, effective 3/12/22.]

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