UTC Draft Incremental Hydro Language:

(3) All eligible renewable resource generation and all renewable energy credits used for utility compliance with the renewable energy standards must be registered in WREGIS, regardless of facility ownership.

(7) **Incremental hydropower calculation.** A utility must use one of the following methods to calculate the quantity of incremental electricity produced by eligible efficiency upgrades to any hydropower facility, regardless of ownership, that is used to meet the annual targets of this section.

(a) **Method one.** An annual calculation performed by:

(i) Determining the river discharge for the facility in the target year;

(ii) Measuring the total amount of electricity produced by the upgraded hydropower facility during the target year;

(iii) Using a power curve-based production model to calculate how much energy the pre-upgrade facility would have generated under the same river discharge observed in the target year; and

(iv) Subtracting the model output in (a)(iii) of this subsection from the measurement in (a)(ii) of this subsection to determine the quantity of eligible renewable energy produced by the facility during the target year.

(b) **Method two**. An ~~annual~~ application of a percentage to total production performed by:

(i) Determining the river discharge for the facility over a historical period of at least five consecutive years;

(ii) Using power curve-based production models to calculate the facility's generation ~~under the river discharge of each year~~ in the historical period for the pre-upgrade state and the post-upgrade state;

(iii) Calculating the arithmetic mean of generation in both the pre-upgrade and post-upgrade state(s) ~~over~~ for the historical period;

(iv) Calculate a factor by dividing the arithmetic mean post-upgrade generation by the arithmetic mean pre-upgrade generation and subtracting one; and

(v) Multiply the facility's observed generation in the target year by the factor calculated in (b)(iv) of this subsection to determine the share of the facility's observed generation that may be reported as eligible renewable energy.

(c) **Method three.** A utility may only use method three to demonstrate compliance for a target year after 2017 by commission order. Method three is a one-time calculation of the quantity of renewable energy performed by:
(i) Determining the river discharge for the facility over a historical period of at least ten consecutive years;
(ii) Using a production model to calculate the facility's generation in megawatt-hours under ~~the river discharge of each year in the~~
(iii) Calculating the arithmetic mean generation of the pre-upgrade and post-upgrade state(s) ~~over~~ for the historical period in megawatt hours;
(iv) Subtracting the arithmetic mean pre-upgrade generation from the arithmetic mean post-upgrade generation to determine the amount of eligible renewable generation for the target year; and
(v) In the utility's 2017 renewable portfolio standard report, providing an analysis comparing the amount of incremental hydropower the utility reported in the five previous years using method three to the amount of incremental hydropower the utility would have reported over the same period using one of the other two methods.