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Comments by James Adcock on Docket UE-210183
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 Commenting party's name: James Adcock, Electrical Engineer
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 Comments on Draft Rules re Use and Retained RECs, Docket UE-210183
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Comments by James Adcock, Electrical Engineer, MIT, decades-long participant in public Integrated Resource Planning processes. James has spent his entire career engaging in statistical analysis, including at three Fortune 500 companies.

What is a "Retained REC" ? It is simply a UTC-invented "Indulgence" which allows utilities to continue to emit from more than 20% of load after 2030, and to continue to emit from more than 0% of load after 2045 – as the below examples will clearly demonstrate. This is clearly contrary to the clearly stated requirements of CETA:

CETA PULLQUOTE:

"It is the policy of the state that nonemitting electric generation and electricity from renewable resources supply one hundred percent of all sales of electricity to Washington retail electric customers by January 1, 2045. By January 1, 2045, and each year thereafter, each electric utility must demonstrate its compliance with this standard using a combination of nonemitting electric generation and electricity from renewable resources."

I don't see how CETA can be less unambiguous: Utilities can use NOTHING other than nonemitting electrical generation, and/or electricity from renewable resources after 2045. That flows immediately from the meaning of "ONE HUNDRED PERCENT."

What UTC proposes today, then, must be 100% compatible with the required behavior of utilities come 2045. If rules that UTC defines today permits a utility to do other than "ONE HUNDRED PERCENT nonemitting and renewable resources" by 2045, then those UTC rules would clearly have been promulgated in error, and contrary to CETA law.

I believe UTC proposed "Retained REC" rules clearly are such an error as discussed below. Fortunately, the fix to this error is easily accomplished, as will be stated in the conclusion.

Firstly, let us compare the UTC definition of a "Retained REC" in comparison to an "Ordinary REC" as understood by Federal EPA – and also Washington State – which follows the EPA definition.

Retained REC definition (from this UTC proposal)

“Retained REC” means the nonpower attributes of renewable and nonemitting electricity owned or controlled by a utility where the associated electricity is sold in a wholesale sale as unspecified electricity.

This is to be compared to the EPA definition of an Ordinary REC:

“[Ordinary] REC” means the nonpower attributes of renewable and nonemitting electricity owned or controlled by a utility where the associated electricity is sold in a wholesale sale as unspecified electricity.

In summary there is absolutely no difference between UTC’s newly minted term “Retained REC” and the long-term understanding of what a “REC” has always meant: A utility sells the power to another entity which is not allowed to make any environmental claims about that electricity, while the utility retains all the environmental claims to that electricity.

Let us examine the permitted behavior of a hypothetical Washington State utility in compliance with these proposed “Retained REC” set of rules, after 2030 but prior to 2045:

We will make the following set of assumptions simply for simplicity in exposition:

* The utility historically has generated much of its electricity using Natural Gas, and if given the chance will continue to do so. We could just as well assume that some of this electricity comes from “Unspecified” market purchases which would be saying the same thing – since those market purchases could in fact be from Natural Gas.

* The utility does not in fact continue to use Coal Power. We make this assumption simply for simplicity in exposition – I believe that some utilities will fraudulently continue to source Coal Power while falsely claiming that they didn’t know that they were sourcing Coal Power. But for simplicities’ sake we will assume that this hypothetical utility is not one of them.

We will using the following abbreviations for simplicity:

BREC – a “Bundled REC” – the utility generates (or buys) renewable or non-emitting and uses it to supply customers directly in real-time, retiring the Bundled REC as required.

RREC – a “Retained REC”

XREC – “not a REC” – the legal permission a utility has to continue to use fossil fuel up to 20%

NG – the use of emitting generation

DG – “Do Good” – a UTC-sanctioned unit of alternative-compliance that can be used up to the 20%

WIND – a placeholder term meant to represent any form of compliant non-emitting or renewable resource. Could also be Solar, for example.

For simplicity of exposition we will talk about the period of analysis as being “one year” – although for compliance purposes one might as well have talked about the period of analysis as being “four years” – in which case the four-year averaging could be ignored. In fact for simplicity of exposition we will ignore the four-year averaging, assuming that the utility must in fact meet “80%” within the analysis period.

Let us see under the proposed “RREC” set of rules what happens if the utility attempts to meet its requirements in the following manner:

Utility buys or generates WIND in an amount over the period of analysis exactly equal to 80% of load. Unfortunately that WIND only runs, at random, 1/3 of the time. For simplicities’ sake we will assume that WIND, when it does run, runs at 100% of Nameplate Capacity. The rest of the time it “runs” at 0% capacity – i.e. it doesn’t run at all. Unfortunately this simple model of the behavior of WIND runs perilously close to actual reality.

To make up the rest of all required electricity the utility simply runs NG.

Since WIND only runs 1/3 of the time, to reach 80% of average load, when it does run that means it needs to generate 3/1 times 80% or 240% of load. Since the utility can absorb only 100% of load, this means that the 1/3 of the time WIND runs 140% of utility load will be generated in excess and sold to market, leaving the utility RREC of 140% of load – for that 1/3 of the time. Or on average 140% times 1/3 equals 46.66% of average utility load will be RRECs.

At the end of the period, the utility’s “compliance position” now lies as follows:

BREC	33.33%
RREC	46.67%
XREC	20.00%
NG	66.67%
DG	20.00%
WIND	80.00%
Nameplate	240.00%

100.00% Equals Sum of Permitted Activities

To summarize, 100% of the utility’s activities are permitted under these proposed UTC rules. The sum of the BREC – Bound RECs and the RRECs – Retained RECs – equals 80%, XRECs – “Not a REC” i.e. emissive generation equals 20% of total load. That 20% is covered by DG “Do Good” alternative compliance activities.

Unfortunately Natural Gas Generation is being used to serve 66.67% of total utility load! But – Not a Problem – under proposed UTC rules that is fully permitted! [Really – how did UTC conclude this???

Now, let’s “Fast Forward” this utility approach to the after-2045 time frame. Now under UTC “Retained REC” rules the utility has to generate WIND equal to 100% of load, leading to the utilities “compliance position” as follows:

BREC	33.33%
RREC	66.67%
XREC	0.00%
NG	66.67%
DG	0.00%
WIND	100.00%
Nameplate	300.00%

Equals Sum of Permitted
100.00% Activities

To summarize, since Wind only runs 1/3 of the time, and the utility needs to generate WIND equal to 100% of load, that means total Wind Generation Nameplate must be 3X average load. So during the 1/3 of the time that Wind actually runs, only 1/3 of that WIND can be used to generate BREC (Bound RECs) so the other 2/3 must be used to generate RREC (Retained RECs) But since Wind only runs 1/3 of the time NG (Natural Gas) must run 2/3 of the time, meaning that NG is generated equal to 2/3 of total utility average load.

According to currently proposed UTC "Retained REC" rules this post-2045 utility is in fact in compliance in spite of the fact that 2/3 of the utility total actual used generation comes from natural gas.

There is only one problem with this: CETA law clearly and unambiguously states that after 2045 ZERO PERCENT of utility load can come from emitting generation such as NG Natural Gas!

So we have a contradiction here: UTC suggest that their proposed rules correctly implements the clearly stated rules of CETA law. However under those proposed rules a utility can clearly fail to meet the "NO EMISSIONS" post-2045 rules clearly stated in CETA Law (see the above preamble, again)

In Conclusion: UTC Proposed Rules fails to faithfully implement CETA Law and thus may not legitimately be adopted!

Fortunately, there is a simple fix to this problem: UTC must simply change the proposed language in WAC 480-100-650 Reporting and compliance, Section (2) Clean compliance report, subsection (e), UTC must simply change the language of that section to read as follows:

(e) For the purpose of determining compliance with this subsection, retiring retained RECs **IS NOT** a form of using electricity toward primary compliance.

Sincerely,

James L. Adcock, Electrical Engineer