**Reconciling EECs in NC-RETS with EE savings in DSM/EE Riders**

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**Renewable Energy and Energy Efficiency Portfolio Standard (REPS**) ([G.S. 62-133.8](https://www.ncleg.net/enactedlegislation/statutes/html/bysection/chapter_62/gs_62-133.8.html))

North Carolina’s REPS was established by Senate Bill 3 in 2007. It requires each utility in the state to generate an increasing percentage of its energy mix from renewable sources.

* *Investor-owned utilities*: 12.5% renewable energy (as % of retail sales) by 2021
  + EE Measures can be used to meet ***up to 25%*** of the requirement
  + After 2021, ***up to 40%*** of the standard may be met through energy efficiency
* *Electric cooperatives, municipal utilities*: 10% renewable energy by 2018
  + ***No limitation*** on energy efficiency
* "*Energy efficiency measure*" in REPS is defined as an equipment, physical, or program change implemented after January 1, 2007, that results in less energy used to perform the same function. "Energy efficiency measure" includes, but is not limited to, energy produced from a combined heat and power system that uses nonrenewable energy resources. "Energy efficiency measure" does not include demand-side management.

[***NC-RETS***](https://portal2.ncrets.org/myModule/rpt/myrpt.asp?r=109&TabName=Certificate) tracks the **cumulative** level of Energy Efficiency Credits (EECs) generated to date, less any EECs used for compliance with the REPS target and adjustments for EM&V or other adjustments. The Commission’s [January 17, 2017 order](https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=234c0951-fd81-4040-b19f-721334d6c083) in DEP’s 2015 REPS docket No. E-2, Sub 1109, further defines the timeframe for measurement of EECs: “for REPS compliance purposes, EECs should be earned only from programs or measures that are implemented by an electric public utility for **a duration equal to the life of the approved program or measure as established by the EM&V process**.”

Table 1: Summary of EECs in NC-RETS (1 EEC = 1 MWh of energy saved)



Source: North Carolina Renewable Energy Tracking System (NC-RETS)

Table 1 summarizes the number of EECs generated by each utility (or group of utilities) in NC since REPS went into effect in 2007. Because EECs can be claimed for the life of the measure, the cumulative amount of EECs tracked in NC-RETs has been increasing as new incremental EE is added to the existing EE measures already in place. However, because the duration of life varies depending on the type of measure (the average life of a CFL might be 5 years, while the average life of an LED might average 10 years), some of these EECs will start to roll off as the measure reaches end of life while other measures will continue to generate EECs.

Once the measure reaches end of life, the savings (and therefore the number of EECs generated) roll-off. For example, if 1 million CFL lights were installed in 2015, the utility would be able to claim EECs for the savings for 5 years (in addition to savings from other measures that still were within their lifespan). In 2020, the savings from these 1 million CFLs would roll off. New incremental EE would need to be implemented that is equal to or greater than the savings from the 1 million CFLs in order to maintain the level of EECs generated and available for compliance with REPS.

**Annual Retirement of EECs for REPS**

Each utility can bank the EECs generated each year and use them as needed for compliance. The example below shows the cumulative inventory of RECs for Duke Energy Carolinas, less the EECs used for compliance (or retired) in that year (up to 25% annually through 2021).

Table 2: Example of EEC retirement for REPS Compliance (DEC Only)



Source: North Carolina Renewable Energy Tracking System (NC-RETS) and NCUC REPS compliance filings

**Reconciling with Duke Energy’s annual DSM/EE Cost Recovery Rider**

The approved cost recovery mechanism from ***Duke Energy’s annual DSM/EE cost recovery riders*** are designed to allow the utility to collect revenue equal to **its incurred program costs** for a rate period **plus a Portfolio Performance Incentive (PPI)** based on shared savings achieved by DEC’s DSM/EE programs, and to recover **net lost revenues** for EE programs only. These net lost revenues are based on estimates for the current year and actual true-up (based on EM&V) of lost revenues from prior years. The Company is allowed to recover net lost revenues associated with a particular “vintage” of an EE measure for the lesser of 36 months or the life of the measure. It is this lost revenue component (or actual reductions in energy use) which must be reconciled with the EECs reported to NC-RETS.

There are three primary differences between what is reported in NC-RETS for REPS compliance and what is reported in the DSM/EE Rider:

* The DSM/EE Rider calculates the energy savings based on **incremental savings** in one year. The EECs tracked for REPS compliance include **cumulative savings** over the life of the measure.
* The DSM/EE Rider only counts **net energy savings** (net of free-ridership, or someone who would have install an energy-efficiency measure without any program incentives because of the return on investment of the measure but receives a financial incentive or rebate anyway). The EECs tracked for REPS compliance counts **gross savings** (and includes free-ridership).
* The DSM/EE Rider accounts for line losses from the generating plant to the end user (**energy savings are calculated at the meter**). The EECs tracked for REPS compliance accounts for **energy savings at the generating plant.**

An example of this reconciliation is outlined below:

Table 3: RECs to Lost Revenue Reconciliation (DEC Only)



Source: Duke Energy

**Observations / Questions**

* What is important for NC to track? Is it cumulative energy savings or incremental annually?
* If cumulative, are we comfortable with gross energy savings (includes free-ridership and does not account for line losses)?
* Since EE is voluntary today in REPS, what is the effect of creating a floor (i.e. requirement that **at least 40%** of REPS requirement must be EE to be compliant in 2021). See table 4 below for what this might look like for DEC.
* Since lighting measures make up the majority of utility EE savings to date, how do we continue to encourage other types of EE (to offset the roll off of savings from lighting EE)?
* Since EM&V is expensive (especially for co-ops and munis), how do we aggregate the EM&V (possibly from a third party) or utilize deemed savings to increase cooperative and municipal utility participation in EE programs?

Table 4: Example of EEC “floor” for REPS Compliance (DEC Only)



Source: North Carolina Renewable Energy Tracking System (NC-RETS) and Duke Energy Carolinas 2018 IRP (E-100, Sub 157)