

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. E-43, SUB 6
DOCKET NO. E-100, SUB 113
DOCKET NO. EC-33, SUB 58
DOCKET NO. EC-83, SUB 1

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-43, SUB 6

In the Matter of)
North Carolina Municipal Power)
Agency No. 1 – 2008 REPS)
Compliance Report)

DOCKET NO. E-100, SUB 113)

In the Matter of)
Rulemaking Proceeding to Implement)
Session Law 2007-397)

DOCKET NO. EC-33, SUB 58)

In the Matter of)
Halifax Electric Membership)
Corporation – 2008 REPS Compliance)
Report)

DOCKET NO. EC-83, SUB 1)

In the Matter of)
GreenCo Solutions, Inc. – 2008 REPS)
Compliance Report)

ORDER REQUIRING ELECTRIC
MEMBERSHIP CORPORATIONS AND
MUNICIPAL POWER SUPPLIERS TO
FILE MEASUREMENT AND
VERIFICATION PLANS AND RESULTS
FOR ENERGY EFFICIENCY AND
DEMAND-SIDE MANAGEMENT
PROGRAMS

BY THE COMMISSION: On August 24, 2010, in Docket No. E-100, Sub 113, the Commission issued an Order Requesting Comments On Measurement and Verification (M&V) of Reduced Energy Consumption (M&V Order). That M&V Order noted that G.S. 62-133.8(c)(2) allows electric membership corporations (EMCs) and municipal power suppliers to meet their general Renewable Energy and Energy Efficiency Portfolio Standard (REPS) compliance obligation in a variety of ways, including via reduced energy consumption through the implementation of demand-side management (DSM) or energy efficiency (EE) measures. The Order stated that the Commission's rules might be inadequate to ensure the credibility of the energy efficiency certificates (EECs) issued in

the North Carolina Renewable Energy Tracking System (NC-RETS) and subsequently used for REPS compliance, especially regarding the EE and DSM activities of EMCs and municipal power suppliers, because municipal power suppliers are not required to make any M&V filings with the Commission, and EMCs are required to only file their M&V plans, not the actual results of their EE and DSM programs. The M&V Order sought comments on these issues as well as on the appropriate method of determining energy savings from DSM programs. The Order also asked parties to address the question of what kind of M&V documentation should be required from each kind of electric power supplier. The Order further required electric power suppliers to refrain from creating EECs in NC-RETS until these issues could be resolved by the Commission.

In addition, several electric power suppliers' REPS compliance reports have raised issues as to whether their reported energy savings have been adequately documented. On May 3, 2011, the Commission issued orders in Dockets No. E-43, Sub 6; EC-33, Sub 58; and EC-83, Sub 1, the 2008 REPS compliance reports for the North Carolina Municipal Power Agency No.1 (NCMPA1), Halifax EMC (Halifax), and GreenCo Solutions, Inc. (GreenCo), respectively. In those orders, the Commission found that the quantification of potential EECs by NCMPA1, Halifax, and GreenCo in their 2008 REPS compliance reports should be accepted subject to resolution of the issues posed in the M&V Order, and should be reconsidered following the submission of M&V data supporting such estimates by NCMPA1, Halifax, and GreenCo.

On October 14, 2010, ElectriCities of North Carolina, Inc. (ElectriCities), filed comments. On October 15, 2010, comments were filed jointly by the Environmental Defense Fund, the Southern Alliance for Clean Energy, and the Southern Environmental Law Center (collectively, the Environmental Intervenors). Also on October 15, 2010, comments were filed jointly by Dominion North Carolina Power (Dominion), Duke Energy Carolinas, LLC (Duke), and Progress Energy Carolinas, Inc. (PEC), collectively, the Investor-Owned Utilities (IOUs); GreenCo; the North Carolina Sustainable Energy Association (NCSEA); the Public Works Commission of the City of Fayetteville (Fayetteville); and the Public Staff – North Carolina Utilities Commission (Public Staff).

On November 19, 2010, reply comments were filed by the Environmental Intervenors, Fayetteville, the IOUs, NCSEA, and the Public Staff.

Issue 1: What kind of M&V documentation should be filed and/or made available for audit by each kind of electric power supplier that uses EE/DSM program achievements toward its general REPS obligation?

ElectriCities stated that municipal power suppliers or their utility compliance aggregator should be required to develop and maintain an M&V plan for each EE/DSM program where its resulting energy savings are used toward REPS compliance. They proposed that these M&V plans, along with the data and calculations involved in the determination of energy savings, should be made available for audit by the Public Staff and the Commission, but should not be submitted with any REPS report.

Fayetteville commented that municipal utilities should file M&V methods in their annual REPS compliance plans, and that these M&V methods should be the ones used in the two subsequent calendar years covered by the plan. In addition, Fayetteville stated:

Standardized measurement methodology should be deemed approved. Non-standardized measurement methodologies should be identified and subject to review by the NCUC [Commission] for ... 90 days, after which they should be deemed approved. Actual measurement data ... should be retained for audit by a qualified independent third party but not filed. By pre-approving measurement methodologies, audits can be limited to whether EE and DSM program results were computed accurately

Fayetteville also raised concerns regarding the cost of M&V:

[I]f administrative functions impose an excessive demand on the resources of an electric power supplier, the cost of such administrative functions could potentially undermine the goals of REPS by utilizing an undue amount of an electric power supplier's annual cost cap...

Fayetteville proposed that M&V costs be limited to no more than five percent of an electric power supplier's annual expenditures on EE and DSM programs, up to the annual cost cap imposed by G.S. 62-133.8(h).

NCSEA stated that all three kinds of electric power suppliers (IOUs, EMCs, and municipal power suppliers) should file and make available for audit the same kind of M&V documentation. According to NCSEA, each M&V plan should address metering, monitoring, analysis methods, quality assurance, responsible personnel, sampling, and measurement. NCSEA stated that this information will ensure that all M&V activities follow an acceptable protocol. NCSEA stated that in order for M&V results to be credible, a uniform M&V protocol should be established, and that the Commission should consider adopting the M&V protocol established by the Efficiency Valuation Organization, a non-profit corporation, in its International Performance Measurement and Verification Protocol.

The Environmental Intervenors recommended that electric power suppliers should file M&V documentation that is consistent with accepted protocols, and they listed several examples of such protocols, including the International Performance Measurement and Verification Protocol. The Environmental Intervenors provided an outline for such a protocol which would require an electric power supplier to provide the following information for each EE/DSM program: number of participants and number of installations by each participant; the annual energy and peak demand savings achieved by each installation at the participant's meter; a "net-to-gross ratio," which would be calculated based on transmission and distribution losses; the estimated number of "free riders" and "free drivers;" and the energy and capacity "rebound effect." This data would be used to estimate and report each program's annual energy and peak demand savings as measured at the electric generator source.

GreenCo proposed that the justification for the validity of any proposed M&V method should be furnished by GreenCo at the time it reports EECs, and that program specific information used to calculate savings should be retained by GreenCo for audit purposes.

The IOUs stated that current Rule R8-68 (filing requirements for new EE/DSM programs) and Rule R8-69 (cost recovery for DSM and EE programs) already provide for adequate M&V documentation by electric public utilities. They observed that additional materials are available for audit, including third-party research. Further, the IOUs commented that while reporting consistency and standard protocols are laudable goals in theory, M&V protocols are not “one-size-fits-all” and must be assessed on a supplier-by-supplier and case-by-case basis.

The Public Staff proposed that each electric power supplier should file information showing that it has established M&V protocols. Supporting documentation should be made available for audit and should include reports and correspondence from the electric power supplier’s consultant; descriptions of methods and procedures; customer surveys and response data; analyses of survey results; and calculations supporting energy savings used for REPS compliance purposes.

Issue 2: Whether and in what proceeding, if any, should the Commission review such M&V documentation in order to establish the savings from EE/DSM programs that may then be used by each kind of electric power supplier to comply with REPS?

ElectriCities and Fayetteville maintained that the Commission should only review a power supplier’s M&V data in the context of its REPS compliance report, and then only if there is a dispute between the Public Staff and the power supplier concerning EE/DSM achievements. In that event, M&V documentation for the disputed program would be submitted during the compliance report hearing.

The Environmental Intervenors recommended that detailed M&V documentation should be filed and available for audit during “individual program dockets,” subject to review by the Commission and parties, and that such review should be conducted every two years. They suggested that the Commission clarify the distinction between “estimated” and “verified” energy savings. They explained that each electric power supplier or compliance aggregator should include in its REPS compliance report its estimated EE/DSM savings data, and they provided a proposed format for presenting participation data, M&V compliance data, and the calculation of EE impacts in the REPS compliance report. They recommended that utilities be allowed to revise their estimated program impacts within one year, under limited circumstances. Further, the Environmental Intervenors opposed reviewing M&V documentation in EE/DSM rider proceedings, stating that approach would “delay the review ... and leave such review to a ‘high stakes’ proceeding in which M&V is used to determine the amount of lost revenues and shareholder incentive payments to be recovered.”

GreenCo agreed with the municipal power suppliers that Commission review would only be needed in the event of a challenge from the Public Staff or another party. However, GreenCo stated that:

[T]he Commission should not wait until GreenCo files its compliance report, wherein it claims [for REPS compliance] any particular RECs derived from EE or DSM, to undertake an exhaustive review of the methodology and outcome of the process. Instead, GreenCo recommends that the Commission perform its review function well prior to GreenCo's compliance report, either as part of the IRP [integrated resource plan] docket in which GreenCo's compliance plans are filed, or in a separate docket.

In its reply comments, Fayetteville agreed with GreenCo, stating that:

[T]he significant time lag that may be inherent in REPS compliance proceedings could prevent electric power suppliers from learning about shortcomings with their measurement and verification methodologies and documentation for three (3) years or more after the methodology is implemented and documentation is collected... To the extent that the Public Staff intends to wait until RECs are used or retired before reviewing M&V documentation, these problems associated with delay would be exacerbated.

Fayetteville's reply comments proposed the following process flow:

- 1) The NCUC should pre-approve the M&V parameters and methods.
- 2) Any challenge to EECs identified in annual compliance reports that were measured using the Commission-approved parameters and methods should be started within 60 days of filing the compliance report.
- 3) Non-standard measurement methods should be identified and be subject to review by the Commission for 90 days, after which they would be deemed to be approved.
- 4) Actual measurement data should be retained for audit by a qualified independent third party since a third party would typically be able to complete an audit quickly, if such an audit is needed.
- 5) An audit should be implemented only when the Commission believes there is sufficient cause to justify the time and expense.
- 6) All audit costs incurred by an electric power supplier should be counted against the REPS annual cost cap.

In addition, Fayetteville stated that the State's electric power suppliers all have different resources available to them and different customer base sizes:

To the extent the NCUC's measurement, verification, and documentation requirements impose significant fixed costs or onerous requirements,

smaller electric power suppliers will have fewer retail customers to whom these costs will be allocated.

The IOUs contended that the Commission should review M&V documentation during EE/DSM cost recovery proceedings because energy savings are used in the determination of program incentives and net lost revenues. They believe the Commission's existing processes and rules are sufficient.

The Public Staff stated that M&V documentation should be reviewed during EE/DSM rider proceedings for the electric public utilities and during REPS compliance proceedings for EMCs and municipal power suppliers. Because municipal power suppliers are not required to obtain Commission approval of EE/DSM programs, they should be required to include M&V plans in their REPS compliance plans.

Discussion and Conclusions Regarding Issues 1 and 2

The Commission has carefully considered the parties' comments and is cognizant of the need to balance the expense and delays that complex filing requirements and protracted M&V proceedings could present against the requirement that REPS compliance be verified in a credible manner. The Commission agrees with the Public Staff and the IOUs that the existing processes are adequate for electric public utilities. Those entities are required to file M&V plans with their EE/DSM program applications, and their EE/DSM rider proceedings provide a timely forum for review of the implementation and results of those M&V plans. These processes have been in place for several years, and the Commission finds and concludes that the IOUs and the Public Staff are generally using those processes to assure that EE/DSM programs are receiving an appropriate level of scrutiny. By way of illustration, the Commission's February 26, 2009 Order in Duke's "Save-a-Watt" proceeding (Docket No. E-7, Sub 831) found that:

Duke's M&V plan, which was commended by a number of other parties, provides for an independent review and evaluation of its proposed programs by establishing initial evaluation plan summaries that propose specific EE evaluation studies and activities. Third-party evaluation professionals will design, manage, and supervise the M&V plan and evaluations. Evaluations will be based on engineering projections of savings, as well as actual field evaluations, metering, monitoring, and M&V. Duke intends to verify generally about 5% of the installed measures, focusing more on high-savings and high-priority measures. Most utilities across the country set verification levels for their programs from zero to 10% of installed measures. Duke's M&V plan is state-of-the-art and conforms to the approaches described in the California Evaluation Protocols, National Action Plan for Energy Efficiency (NAPEE), and the International Performance Measurement and Verification Protocol (IPMVP).

Based upon the foregoing, Duke's M&V plan appears to be adequate and reasonable for its proposed programs. Accordingly, the Commission approves Duke's M&V plan.

The Commission's November 14, 2011 Order in PEC's EE/DSM rider proceeding (Docket No. E-2, Sub 1002) found that:

While the initial evaluation, measurement, and verification (EM&V)^[1] analyses and reports prepared by PEC are adequate, refinements and improvements are appropriate for future reports.

...

The Commission agrees with the Public Staff that PEC should incorporate more detail, as described by witness Floyd, in its future EM&V analyses. The Commission finds and concludes that PEC should file its EM&V schedule, including identification of major milestones such as the schedule for completing the initial sample design; the schedule for completing the process and impact evaluations; and the date for the completion of the EM&V report for each DSM/EE program. The Commission requests that PEC and the Public Staff collaborate on the definition of major milestones that should be included in the EM&V schedule. Further the Commission finds and concludes that the parties should file an EM&V schedule with the Commission, which incorporates such additional details, within 60 days of this Order.

PEC has since filed the required schedule, and it is available for public review.

Finally, the Commission's December 13, 2011 Order in Dominion's EE/DSM rider proceeding (Docket No. E-22, Sub 473), found that:

It is reasonable and appropriate for the Company to file its evaluation, measurement and verification (EM&V) reports on or before April 1 of each year. Such reports should include sufficient information and an analysis of the gross and net savings and costs of the programs so that the Public Staff and the Commission may fully evaluate net-to-gross adjustments made by [Dominion] to determine the actual savings for each DSM or EE program.

Subsequently, Dominion filed an M&V report that is several hundred pages in length which is available for review by parties. Therefore, based on the comments of the IOUs and the Public Staff, and the record in the aforementioned Duke, PEC, and Dominion EE/DSM rider proceedings, the Commission finds and concludes that the existing M&V processes for electric public utilities are adequate.

¹For purposes of this Order, EM&V is synonymous with M&V.

The Commission appreciates the thorough recommendations made by the Environmental Intervenors who advocated the need for rigorous and consistent M&V protocols. Several parties advocated that all electric power suppliers be required to establish and implement such protocols, and the NCSEA recommended that one uniform M&V protocol be established for all North Carolina electric power suppliers. Such rigorous methods are appropriate for the IOUs because they are relatively large and their EE programs are not subject to the REPS cost cap. However, the Commission agrees with the IOUs that M&V protocols can and should be customized from program to program, based on the relative number of participants; the age of the program; the savings results that have been reported by other organizations with similar programs; and a host of other factors. The Public Staff has been actively reviewing the M&V plans and results of the IOUs in their program application and EE/DSM rider proceedings, and the Commission has generally found that the Public Staff and the IOUs are putting an appropriate emphasis on M&V. Finally, to the extent that a party believes that an electric public utility is not employing appropriate M&V protocols, the Commission encourages such party to file comments in specific EE/DSM rider proceedings.

The issue remaining, then, is the appropriate M&V approach for EMCs and municipal power suppliers. There is agreement among all parties that the existing REPS processes need to be modified in order to ensure that all electric power suppliers that intend to use energy savings for REPS compliance have an M&V plan for each EE/DSM program, and that each M&V plan is implemented appropriately. The Public Staff stated that it is appropriate to require all electric power suppliers to (1) file information demonstrating that they have developed M&V protocols; (2) file the M&V results; and (3) retain for audit information supporting their M&V results. The Commission agrees. However, as noted by Fayetteville, for electric power suppliers that have extremely small customer bases and hence, extremely low REPS cost caps,² rigorous M&V protocols would be inappropriate. The expense could quickly dwarf the economic value of the energy savings being measured. Therefore, the Commission chooses not to adopt one uniform statewide M&V but instead will require each EMC and municipal power supplier, regardless of its small size, to provide an M&V plan in its annual REPS compliance plan, and M&V results in its annual REPS compliance report that, at a minimum:

- 1) Provide a reliable accounting of the number of participants/installations achieved by an EE/DSM program each calendar year;
- 2) Establish and/or rely upon a reasonably sound and conservative estimate of the amount of energy saved per participant/installation; and
- 3) Establish and/or rely upon a reasonably sound and conservative estimate of the number of years one could expect those savings to persist.

²The EE/DSM expenses of electric public utilities are not subject to the REPS cost caps because these expenses are recovered via the EE/DSM riders that are authorized by G.S. 62-133.9. See G.S. 62-133.8(h)(l)(a).

In order to preserve REPS budgets for higher priority items including the solar, poultry waste, and swine waste set-asides, the Commission will allow smaller electric power suppliers to rely on the energy savings and persistence data reported and published by another organization to the extent that organization's data is based on a reliable sample size for a similar program and rigorous M&V methods were employed.

Fayetteville suggested specific deadlines for challenges to M&V plans or resulting EECs. The Commission will decline to impose such deadlines, noting that the Public Staff thus far has been reviewing M&V data and EECs in REPS compliance plans and reports without the benefit of guidance from the Commission. The Commission anticipates that the specific minimum M&V requirements established in this Order will speed the Public Staff's review. However, if an electric power supplier wants concurrence that its M&V plans and results meet or exceed the minimum requirements established by this Order, the Commission encourages it to review those M&V plans and EEC calculations with the Public Staff prior to filing them with the Commission.

Therefore, the Commission finds and concludes that it is necessary to amend its REPS rules. Rule R8-67(b), which lists the requirements for annual REPS compliance plans, will be amended as shown in Appendices A and B attached hereto, to require EMCs and municipal power suppliers to include the M&V plans for the DSM/EE programs that are included in their REPS compliance plans. In addition, Rule R8-67(c), which lists the requirements for annual REPS compliance reports, will also be amended as shown in Appendices A and B to require EMCs and municipal power suppliers to include the results of their M&V plans and retain for audit supporting documentation.

The Environmental Intervenors suggested that the Commission clarify the distinction between "estimated" and "verified" energy savings. The Commission has reviewed its rules and agrees that clarification is needed. In particular, Rule R8-67(c)(1) requires the annual filing of a REPS compliance report and lists the documentation that must be provided, including the following:

- (i) The sources, amounts and costs of renewable energy certificates, by source, used to comply with [REPS]. Renewable energy certificates for energy efficiency may be based on estimates of reduced energy consumption through the implementation of energy efficiency measures, to the extent allowed by the Commission.

As cited in the above rule, "estimates of reduced energy consumption" can occur in two acceptable ways. First, for an electric power supplier that has a robust M&V plan, in the early years of a particular EE program that utility should provide an accurate accounting of how many installations were achieved, but it might not yet have completed the energy savings verification portion of its M&V plan. In such an instance, the Commission will allow the electric power supplier to create EECs based on an "estimate" of energy savings achieved, with the understanding that a true-up could be needed in a subsequent proceeding if M&V later demonstrates that actual energy savings achieved

for a given vintage year were higher or lower than the initial estimate. “Verified” energy savings are those that have been proven via implementation of an M&V plan.

Second, for a smaller electric power supplier whose M&V plan meets the minimum requirements as discussed earlier in this Order, the Commission will allow the use of energy savings estimates provided that the electric power supplier demonstrates the basis for those estimates. Such electric power suppliers may create EECs in NC-RETS based on the actual number of participants and installations, but using an estimate of the energy savings and persistence.

For all electric power suppliers, EECs should not be created in NC-RETS until the actual number of participants/installations for a given year is known, and EECs should be created in annual increments, even for installations whose energy savings will persist for several years. For example, if the installations accomplished in a given year for a specific program are expected to produce energy savings for five years, the electric power supplier should create corresponding EECs each year for five years.

Commission Rule R8-67(h)(10) states:

Each electric power supplier that complies with G.S. 62-133.8 by implementing energy efficiency or demand-side management programs shall use NC-RETS to report the estimated and verified energy savings of those programs. Municipal power suppliers and electric membership corporations may elect to have their estimated and verified energy savings from their energy efficiency and demand-side management programs reported to NC-RETS by a utility compliance aggregator, and to have their reported savings consolidated with the reported savings from other municipal power suppliers or electric membership corporations if and as necessary to permit aggregate reporting through their utility compliance aggregator. Records regarding which electric power supplier achieved the energy efficiency and demand-side management, the programs that were used, and the year in which it was achieved, shall be retained for audit.

In order to be consistent with the policy described earlier, the Commission concludes that it is necessary to amend Rule R8-67(h)(10) as shown below and in Appendices and B attached hereto:

Each electric power supplier that complies with G.S. 62-133.8 by implementing energy efficiency or demand-side management programs shall use NC-RETS to report the ~~estimated and verified~~ energy savings of those programs. Municipal power suppliers and electric membership corporations may elect to have their ~~estimated and verified~~ energy savings from their energy efficiency and demand-side management programs reported to NC-RETS by a utility compliance aggregator, and to have their reported savings consolidated with the reported savings from other municipal power suppliers or electric membership corporations if and as

necessary to permit aggregate reporting through their utility compliance aggregator. Records regarding which electric power supplier achieved the energy efficiency and demand-side management, the programs that were used, and the year in which it was achieved, shall be retained for audit.

Issue 3: What is the appropriate method for determining the energy savings achieved by an EMC or municipal power supplier's DSM measure or program?

ElectriCities stated that utility compliance aggregators for their group of electric power suppliers should apply industry best practices for M&V methods to arrive at kW demand reductions for DSM measures. This would include testing the metered effects of a DSM measure against a base-line load using regression modeling. Then, energy savings would be determined by using engineering estimates based on the number of hours of operation in a year, accounting for the availability of individual control devices. Field testing a representative sample of participating customers and comparing the results with a sample of non-participating customers would provide validation of the engineering estimates.

NCSEA recommended that the Commission should only include energy savings from those DSM measures that result in reduced energy consumption as opposed to a shift in the timing of energy consumption. Similarly, the Environmental Intervenors stated that "a reduction in capacity requirements does not necessarily translate into a reduction in energy consumption." NCSEA explained that there are three generally accepted methods of M&V for DSM measures. "Large scale data analysis" requires that the electric power supplier use billing data to determine energy savings based on actual usage before and after a DSM measure is implemented. The "deemed savings method" assigns a specific savings amount to each instance in which a specific measure is implemented (e.g. a fixed number of kWh savings for each installation). Finally, actual field measurements can be conducted to determine energy savings.

GreenCo responded that:

...it understands that DSM programs will often not result in reduced, as opposed to shifted, energy use, but emphasizes that there is potential for reduced energy consumption in certain DSM programs....

GreenCo observed that the measurement of energy impacts from DSM could vary with the nature of the program; the availability of premise level load data; and the relative strength of M&V methods. GreenCo commented that member cooperatives have deployed automated metering infrastructure, and a random sample of premise level load data from these devices could be analyzed to measure the impact on energy use from DSM activities. GreenCo said:

These direct measurement methods can be augmented or replaced with techniques that include thermodynamic modeling, conditional demand

analyses, billing analysis, engineering calculations, and market surveys Furthermore ... resources such as EPRI, DOE, CRN and the body of M&V literature from other states can serve as cost effective and reliable resources for estimating energy conservation associated with DSM programs.

The Public Staff proposed that electric power suppliers should use standard, well-established and widely accepted protocols whenever possible, citing the International Performance M&V Protocols.

Discussion and Conclusions Regarding Issue 3

G.S. 62-133.8(c)(2)(b) states that an EMC or municipal power supplier may comply with REPS by, among other things, reducing energy consumption through the implementation of DSM. G.S. 62-133.8(a)(2) defines DSM as “activities, programs, or initiatives undertaken by an electric power supplier or its customers to shift the timing of electricity use from peak to nonpeak demand periods.” The first statute refers to electricity use reductions, while the second refers to shifts in the timing of electricity use. Therefore, the Commission concludes that it is necessary to clarify how energy savings from DSM programs are to be calculated. NCSEA and the Environmental Intervenors, as well as several other parties, acknowledged the potential for over-counting DSM energy savings if the energy usage that was subsequently shifted into the non-peak demand periods is not accounted for. The Commission agrees and therefore concludes that the energy consumption that is shifted into non-peak periods must be netted against (subtracted from) the energy savings achieved by DSM during peak periods. In addition, there are situations in which customers participate in DSM programs by switching to an alternate energy source, such as an on-site backup generator or a battery, during peak periods. The Commission finds that in these situations, “reduced energy consumption” did not actually occur, and electric power suppliers must, therefore, reduce their reported DSM energy savings accordingly.

In regard to the M&V protocols to be used for DSM programs, the Commission agrees with the Public Staff and other parties that stated that EMCs and municipal power suppliers should use standard, well-established and widely accepted M&V protocols for DSM programs. Small electric power suppliers whose incremental DSM spending is limited by the REPS cost cap should develop and implement an M&V plan that, at a minimum, includes:

- 1) A reliable accounting of the number of participants/installations participating in the DSM program;
- 2) An exact count of the number of times the DSM program was activated, and the length of time of each activation;
- 3) A reasonably sound and conservative estimate of the capacity reduction achieved and the amount of energy saved per DSM activation,

with adjustments for (a) estimates of energy use that was shifted into non-peak periods; (b) estimates of energy use that was provided by alternative sources during the DSM activation period; and (3) estimates of the number of installations that opted out or otherwise failed to activate for whatever reason during the DSM activation; and

4) If possible, documentation of the electric power supplier's load shape on each day of the DSM program's activation.

Issue 4: Should EMCs be required to include an M&V reporting plan in their EE/DSM program applications similar to the plan required of electric public utilities pursuant to Rule R8-68(c)(3)(ii)?

GreenCo stated that it would oppose being required to submit M&V plans with its EE/DSM program applications, and stated that:

GreenCo requests that the Commission allow EMCs adequate time to assess program viability and to determine how best and cost-effectively to develop an M&V strategy. ... GreenCo questions what problem would truly be resolved by this proposed rule change. ... GreenCo is well aware that it must measure and verify EE RECs before using them for compliance purposes and has itself proposed a timetable that gives the Commission (and Public Staff) adequate time to assess M&V methodologies

The Environmental Intervenors recommended that EMCs should be required to file such plans, but that it may be appropriate for the Commission to accept such plans in a different manner or frequency than with the program applications.

The Public Staff maintained that the inclusion of M&V reporting plans in program applications for EMCs would facilitate the determination of energy savings from those programs for REPS compliance. Similarly, NCSEA supported a requirement that EMCs file M&V plans with their program applications, stating that "this will give the Commission the opportunity to verify that appropriate M&V will be used in the project."

Discussion and Conclusions Regarding Issue 4

The Commission has carefully considered the comments of the parties. The Commission agrees with the Public Staff that there are advantages to including M&V plans in a program application, and that this approach is preferable. However, the Commission appreciates that EMCs might want to forego the cost to develop an M&V plan for a program that might not secure Commission approval. Given that the Commission has concluded that it is necessary for EMCs and municipal power suppliers to include M&V plans in their annual REPS compliance plans, it will allow, but not require, EMCs to submit M&V plans with their new EE/DSM program applications.

Other Issues Raised by Parties

Issue 5: Whether to establish an M&V advisory group and require electric power suppliers to jointly select a third-party auditor.

The Environmental Intervenors suggested that the Commission should establish an advisory group process in which utilities and stakeholders could meet informally to ensure that M&V is conducted and documented in a “transparent, reliable and consistent manner.” Similarly, Fayetteville proposed that the Commission direct the electric power suppliers to participate in a working group to address common programs and identify appropriate measurement methods and to nominate one or more third-party auditors for approval by the Commission to conduct audits. NCSEA commented that M&V should be conducted by a third-party state-wide evaluator appointed by the Commission to advance the credibility of the program. In their reply comments the Environmental Intervenors supported Fayetteville’s recommendation to establish an M&V working group, and stated that such a working group should include customer groups and other stakeholders.

In their reply comments, the IOUs opposed the creation of an M&V working group, stating that the creation of a multi-utility advisory approach would “add a step to the process, slow the effort, and add unnecessary administrative, management and oversight costs without guarantee of benefit.” They stated that “such a proposal fails to take into account the myriad of different DSM/EE programs offered by electric utilities, or the stages and phases of their implementation.”

With respect to the use of one state-wide auditor for all electric power suppliers’ EE/DSM programs, the IOUs noted that many electric power suppliers have already contracted with independent third-party contractors for M&V services. “The advisory group process proposed by [the Environmental Intervenors] would, by definition, serve to ‘advise’ the third-party contractors, thereby lessening the desired independence and possibly duplicating some of the activities of the EM&V contractor.”

Discussion and Conclusions Regarding Issue 5

After careful consideration of the parties’ comments, the Commission finds and concludes that it is not necessary at this time to require the creation of an M&V advisory group or the use of one state-wide EE/DSM auditor. Some electric public utilities have already established stakeholder processes for their EE and DSM programs. For example, in the proceeding that established Duke’s “Save-a-Watt” approach to EE/DSM cost recovery and incentives, the Commission approved a settlement agreement that provided for the creation of an advisory group, the purpose of which includes review of Duke’s M&V process.³ The Commission agrees with the IOUs that, for their organizations, the creation of a multi-utility advisory approach would “add a step to the process, slow the effort, and add unnecessary administrative, management and oversight costs without guarantee of benefit.”

³See the Commission’s February 9, 2010 Order in Docket No. E-7, Sub 831.

However, the Commission is of the opinion that for EMCs and municipal power suppliers it is possible that an advisory group approach would have merit. Such electric power suppliers could share information regarding M&V for similar programs and perhaps collaborate in contracting for M&V services.⁴ However, the Commission acknowledges that each electric power supplier's circumstances are unique as regards the maturity of its EE/DSM efforts, the M&V experience of its personnel, and the funding that it should expend toward M&V. Therefore, the Commission encourages EMCs and municipal power suppliers to collaborate on M&V activities to the extent that such collaboration is efficient, but will decline to require the creation of an M&V advisory group at this time.

Similarly, the Commission will also decline to require the use of one state-wide EE/DSM program auditor. As stated in the IOUs' reply comments, many electric power suppliers routinely contract with independent third-party contractors for M&V services. Requiring another third-party "auditor" at this time would be disruptive and of limited additional benefit to assure the integrity of the IOUs' reported EE results. Some EMCs and municipal power suppliers might benefit from such an auditor, but it is not clear to the Commission that the REPS spending caps would always be sufficient to allow such an expenditure. Therefore, the Commission finds and concludes that it is not appropriate at this time to secure a third-party auditor to review all of the M&V activities of the State's electric power suppliers.

IT IS, THEREFORE, ORDERED as follows:

1. That the revised rules as shown in Appendices A and B attached hereto shall be effective immediately;
2. That NCMPA1, Halifax, and GreenCo shall revise the number of EECs reported in their 2008 REPS compliance reports as necessary, consistent with this Order; develop supporting work papers or testimony; and file the information with their 2011 REPS compliance reports on or before September 3, 2012;
3. That all electric power suppliers shall review the number of EECs that they have reported to date and submit any changes that might be necessitated by this Order, along with supporting verified work papers or testimony, with their 2011 REPS compliance reports; and

⁴The Commission notes that such an approach is already being pursued by GreenCo on behalf of its participating EMCs.

4. That the Chief Clerk shall mail a copy of this Order to all electric power suppliers that serve customers within the State of North Carolina.

ISSUED BY ORDER OF THE COMMISSION.

This the 14th day of May, 2012.

NORTH CAROLINA UTILITIES COMMISSION

A handwritten signature in cursive script that reads "Patricia Swenson".

Patricia Swenson, Deputy Clerk

mr051412.02

Amendments to Commission Rules With Changes Black-Lined

R8-67(b) REPS compliance plan.

(1) Each year, beginning in 2008, each electric power supplier or its designated utility compliance aggregator shall file with the Commission the electric power supplier's plan for complying with G.S. 62-133.8(b), (c), (d), (e) and (f). The plan shall cover the calendar year in which the plan is filed and the immediately subsequent two calendar years. At a minimum, the plan shall include the following information:

...

(iii) a list of those planned or implemented energy efficiency and demand side management measures that the electric power supplier plans to use toward REPS compliance, including a brief description of the each measure, its and projected impacts, and a measurement and verification plan if such plan has not otherwise been filed with the Commission;

R8-67(c) REPS compliance report.

(1) Each year, beginning in 2009, each electric power supplier or its designated utility compliance aggregator shall file with the Commission a report describing the electric power supplier's compliance with the requirements of G.S. 62-133.8(b), (c), (d), (e) and (f) during the previous calendar year. The report shall include all of the following information, including supporting documentation:

...

(ix) for electric membership corporations and municipal electric suppliers, reduced energy consumption achieved in each year after January 1, 2008, through the implementation of energy efficiency or a demand-side management programs, along with the results of each program's measurement and verification plan, or other documentation supporting an estimate of the program's energy reductions achieved in the previous year pending implementation of a measurement and verification plan. Supporting documentation shall be retained and made available for audit.

R8-67(h) North Carolina Renewable Energy Certificate Tracking System (NC-RETS)

...

(10) Each electric power supplier that complies with G.S. 62-133.8 by implementing energy efficiency or demand-side management programs shall use NC-RETS to report the ~~estimated and verified~~ energy savings of those programs. Municipal power suppliers and electric membership corporations may elect to have their ~~estimated and verified~~ energy savings from their energy efficiency and

demand-side management programs reported to NC-RETS by a utility compliance aggregator, and to have their reported savings consolidated with the reported savings from other municipal power suppliers or electric membership corporations if and as necessary to permit aggregate reporting through their utility compliance aggregator. Records regarding which electric power supplier achieved the energy efficiency and demand-side management, the programs that were used, and the year in which it was achieved, shall be retained for audit.

Changes to Commission Rules With Changes Accepted

R8-67(b) REPS compliance plan.

(1) Each year, beginning in 2008, each electric power supplier or its designated utility compliance aggregator shall file with the Commission the electric power supplier's plan for complying with G.S. 62-133.8(b), (c), (d), (e) and (f). The plan shall cover the calendar year in which the plan is filed and the immediately subsequent two calendar years. At a minimum, the plan shall include the following information:

...

(iii) a list of those planned or implemented energy efficiency and demand side management measures that the electric power supplier plans to use toward REPS compliance, including a brief description of each measure, its projected impacts, and a measurement and verification plan if such plan has not otherwise been filed with the Commission;

R8-67(c) REPS compliance report.

(1) Each year, beginning in 2009, each electric power supplier or its designated utility compliance aggregator shall file with the Commission a report describing the electric power supplier's compliance with the requirements of G.S. 62-133.8(b), (c), (d), (e) and (f) during the previous calendar year. The report shall include all of the following information, including supporting documentation:

...

(ix) for electric membership corporations and municipal electric suppliers, reduced energy consumption achieved in each year after January 1, 2008, through the implementation of energy efficiency or demand-side management programs, along with the results of each program's measurement and verification plan, or other documentation supporting an estimate of the program's energy reductions achieved in the previous year pending implementation of a measurement and verification plan. Supporting documentation shall be retained and made available for audit.

R8-67(h) North Carolina Renewable Energy Certificate Tracking System (NC-RETS)

...

(10) Each electric power supplier that complies with G.S. 62-133.8 by implementing energy efficiency or demand-side management programs shall use NC-RETS to report the energy savings of those programs. Municipal power suppliers and electric membership corporations may elect to have their energy savings from their energy efficiency and demand-side management programs reported to NC-RETS by a utility compliance aggregator, and to have their

reported savings consolidated with the reported savings from other municipal power suppliers or electric membership corporations if and as necessary to permit aggregate reporting through their utility compliance aggregator. Records regarding which electric power supplier achieved the energy efficiency and demand-side management, the programs that were used, and the year in which it was achieved, shall be retained for audit.