PROPOSED August 1, 2016

Regulations Governing Evaluation, Measurement, and Verification Procedures and Standards

1.0 Authority

These regulations are promulgated pursuant to 29 Delaware Code § 8059(h).

2.0 Purpose

The purpose of these EM&V regulations is to:

- Develop an overall approach to the evaluation of energy efficiency and demand response programs in Delaware,
- Standardize evaluation approaches for the assessment of energy efficiency and demand response programs,
- Provide specific guidance to Program Administrators, contractors and stakeholders for the evaluation of energy efficiency and demand response programs, and
- Ensure consistency between Program Administrators' energy efficiency evaluations plans, analysis, and reporting efforts.

3.0 Definitions

The following words and terms, when used in this regulation, have the following meaning unless the context clearly indicates otherwise:

"Baseline" means conditions, including energy consumption and related emissions that would have occurred without implementation of the subject measure or project. Baseline conditions are sometimes referred to as "business-as-usual" conditions and are used to calculate program-related efficiency or emissions savings. Baselines can be defined as either project-specific baselines or performance-standard baselines.

"Coincident Peak" means the time period of highest system load; for purposes of this regulation, the definition of coincident peak is equivalent to PJM's definition of energy efficiency performance hours under the Reliability Pricing Model (RPM), defined as the hours ending 15:00 through 18:00 Eastern Prevailing Time (EPT) during all days from June 1 through August 31, inclusive, that is not a weekend or federal holiday.

"Deemed Savings" means a measurement of energy savings or demand savings for a single unit of an installed energy efficiency measure or adopted efficiency practice that (a) is determined *ex ante* and applied to all such measures without further measurement or verification, and (b) has been developed from data sources and analytical methods that are widely considered acceptable for the measure and purpose. Deemed savings values are agreed upon by the EEAC in advance of program implementation. If evaluation results indicate a need to change a deemed savings value, the new value will only be applied prospectively to measures not yet installed. Individual parameters or calculation methods can also be deemed.

"Delaware TRM" means a Delaware-specific Technical Reference Manual, as that term is defined in this section.

"Demand Response (DR)"means the temporary reduction of customer energy usage at times of peak usage in order to help system reliability, to reflect market conditions and pricing, or to support infrastructure optimization or deferral of additional infrastructure. Demand response programs may include contractually obligated or voluntary curtailment, direct load control, and pricing strategies.

"Department of Natural Resources and Environmental Control (DNREC)" means the entity established by 29 Del. C. §8001.

"Effective Useful Life (EUL)" means the average time over which an energy efficiency measure results in energy savings, including the effects of equipment failure, removal, and cessation of use. The Delaware TRM shall be the primary source of EUL data.

"Energy Efficiency Advisory Council (**EEAC or Council)"** means the body created by 29 Delaware Code § 8059(h)(1)(a).

"Energy Efficiency (EE) Programs" means energy efficiency, peak demand reduction, and emission-reducing fuel switching programs which seek to decrease consumption of electric energy or natural gas.

"Equity-of-service" means that programs cannot exclude otherwise eligible groups of ratepayers (who are paying into the program) because of their different attitudes or opinions about energy use or energy savings.

"Evaluation" means the performance of studies and activities aimed at determining the effects of an efficiency program.

"Evaluation, Measurement and Verification (EM&V)" means any and all independent research and analytical activities occurring during or after implementation of efficiency programs intended to assess or estimate the accuracy of measure or program impacts, or assessment of the efficiency and effectiveness of the program design and implementation.

"Ex-Post Evaluated Savings" means savings estimates developed and reported by an Independent Evaluation Contractor (IEC) resulting from an energy impact evaluation of past efficiency program activity. These can be either gross or net savings, as defined in this section.

"Free riders" mean participants who participate in a program, but who would have adopted some or all of the efficiency measures without the benefits of the program.

"Gross Savings" means the change in energy consumption and/or demand that results directly from program-related actions taken by participants in a program, regardless of whether the savings are ultimately attributable to the program. Gross savings may be deemed per unit based on ex-ante estimates or evaluated ex-post results.

"Impact Evaluation" means an evaluation that quantifies the direct and indirect results and benefits of a program or project using measured or deemed savings methods.

"Independent Evaluation Contractor (IEC)" means a contractor hired by a Program Administrator to perform evaluation activities and products.

"Market Effect" means the change in the structure or functioning of a market, or the behavior of participants in a market, that results, or is expected to result, from one or more program efforts.

"Measurement and Verification (M&V)" means data collection, monitoring, and analysis associated with the calculation of gross energy and demand savings from individual sites or projects.

"Mid-Atlantic TRM" means the Technical Reference Manual applicable to select states within the Mid-Atlantic region, which is developed collaboratively by participating members in the Mid-Atlantic region.

"Net Present Value (NPV)" means the value of a stream of future costs and/or benefits converted to a single sum in a specific year, usually the first year of the analysis, using a discount rate as specified in these regulations. It can also be thought of as the equivalent worth of all costs and benefits relative to a base point called the "present." NPV takes into account the time value of money by discounting future streams of costs and benefits.

"Net Savings" means (Gross Savings) – (savings attributable to Free Riders) + (savings attributable to Spillover) + (savings attributable to Market Effects). Net savings are the energy savings that are attributable to a program's intervention in the market, exclusive of other reasons for changes in energy use.

"Net-to-Gross Ratio (NTG)" means a factor or ratio representing Net Savings divided by Gross Savings.

"PJM" means PJM Interconnection LLC, the organization that manages electricity transmission and wholesale electricity market for the region that serves Delaware or its successor at law.

"Process Evaluation" means an evaluation that indicates how to improve the structure and delivery of a program or project. These evaluations typically survey program stakeholders, analyze their feedback, and use this information to identify opportunities for program improvement.

"Program Administrator (PA)" means investor-owned or municipal utilities and other entities administering any energy efficiency program governed by 29 Delaware Code § 8059(h).

"Program Implementer" means an entity hired by the Program Administrator to plan, implement, and deliver EE programs on their behalf.

"Program Year" means the annual regulatory period for which an approved program operates, and aligns with the program annual budget and impact targets. In Delaware, the energy efficiency program year runs from January 1 through December 31.

"Public Advocate" means the entity established by 29 Del. C. § 8716.

"Public Service Commission (PSC)" means the entity established by 26 Del. C. § 103.

"Realization Rate" means the ratio of evaluated Gross Savings to initial pre-evaluation claimed Gross Savings. The basis for a realization rate varying from 1.0 can include several considerations such as the following: 1) adjustments for data errors, 2) differences in implemented measure counts as a result of Verification activities, and/or 3) other differences revealed through the evaluation process, such as with respect to adjustments to baseline assumptions or per unit savings estimates.

"Reliable Pricing Model (RPM)" means PJM's capacity market.

"Renewable Energy Credit (REC)" means a tradable instrument defined by 26 Del.C. § 352(18) used to demonstrate compliance with the percentage requirements set forth in 26 Del.C. § 354(a).

"Rigor" means the level of effort expended to minimize uncertainty due to factors such as sampling error and bias. The higher the level of rigor, the more confident one is that the results of the evaluation are both accurate and precise.

"Solar Renewable Energy Credit (SREC)" means the tradable instrument defined by 26 Del.C. § 352(25) used to demonstrate compliance with the percentage requirements set forth in 26 Del.C. § 354(a).

"Spillover (free drivers)" means EE or DR measures that are not directly counted as resulting from program participation, but are taken as a result of the program's influence on customers or markets. There are two general types of spillover: (1) participant spillover, in which program participants adopt additional efficiency measures or practices that are not counted directly as part of the program tracking system; or (2) non-participant spillover in which actions are taken by non-participants due to the general influence or awareness-raising effects of the program.

"Technical Reference Manual (TRM)" means an operating manual that describes the standardized approaches to be used for estimating savings from the installation of energy efficiency measures or adoption of efficiency practices. It provides a common comparable approach for estimating energy savings across programs and market sectors for the measures typically installed via the energy efficiency programs.

"Verification" means an independent ex-post assessment of an energy efficiency or demand response program that confirms: (1) the installation rate of measures installed through the programs; (2) the installation meets reasonable quality standards; (3) the measures are operating correctly and have the potential to generate the predicted savings; and (4) tracked savings estimates are properly calculated based on agreed upon deemed values or rules in the TRM. Verification may include one time or multiple activities over the effective useful life of the measures.

4.0 Incorporation by Reference

4.1 The Delaware TRM, published by the Delaware Department of Natural Resources and Environmental Control on July 1, 2016, is hereby adopted and incorporated by reference.

4.2 The Delaware TRM consists of the Mid-Atlantic TRM version 6.0, as published by the Northeast Energy Efficiency Partnership's Regional EM&V forum in May 2016, plus additional measures to address Delaware-specific conditions.

5.0 EEAC, DNREC, Program Administrators and Independent Evaluation Contractors EM&V Responsibilities

5.1 The EEAC and DNREC shall provide oversight of EM&V for PA energy efficiency portfolios in Delaware. These parties will work together to plan, implement, and review evaluations, including impact, process, market assessments, cost-effectiveness analysis, and baseline research. The following entities shall be engaged in and have responsibilities for EM&V in Delaware, as summarized in the remainder of this section, and including all specific responsibilities defined in greater detail in subsequent sections.

5.2 EEAC Responsibilities

5.2.1 The EEAC shall oversee, plan and guide Delaware energy-efficiency program evaluations and EM&V related activities both pursuant to and not explicitly expressed in these regulations. The EEAC will approve portfolio-level EM&V plans and budgets.

5.2.2 The EEAC shall establish a schedule for meetings to discuss progress of on-going work and to plan and manage new research. The EEAC may establish subcommittees as needed to handle details best suited for smaller groups or matters that affect a sub-set of all PAs.

5.2.3 The EEAC shall review, approve or ask for modifications to, all EM&V analyses and work products produced by IECs.

5.2.4 The EEAC shall work collaboratively with the PAs to develop EM&V plans. EM&V plans should clearly outline the approach for each program or portfolio evaluation including detailing level of expected rigor and reliability of results.

5.2.5 The EEAC shall be responsible for developing or approving the following planning documents related to EM&V in Delaware.

5.2.5.1 Three-Year Plan: The EEAC shall develop a comprehensive 3-year EM&V plan, including overall EM&V budgets in the year prior to the start of the new 3-year cycle.

5.2.5.2 Annual Portfolio Plan Updates: The EEAC shall develop a general plan of EM&V activities to be conducted in the upcoming year. Annual EM&V plans shall allow for modifications, with justification, to the overall Three-Year Plan to accommodate new information or program or portfolio changes. The EEAC shall reach agreement on the Annual EM&V plans in advance of the launch of the program year to which the EM&V plan pertains.

5.3 DNREC Responsibilities

5.3.1 DNREC may hire an EEAC Consultant to represent the EEAC and to assist with the planning and oversight of EM&V activities in Delaware. DNREC's oversight responsibilities related to acquiring EM&V services include: 1) competitively acquiring EEAC Consultant services, and 2) establishing, managing, and overseeing EEAC Consultant service acquisition process and the day-to-day management responsibilities required to successfully implement the EEAC Consultant's efforts.

5.3.2 DNREC will post all final evaluation reports and results on the Delaware EEAC website, except when doing so would compromise customer privacy or data security.

5.4 PA Responsibilities

5.4.1 Each PA is expected to be an active participant in the EEAC's EM&V activities. PAs will also enter into contracts to procure the IECs and provide day-to-day and contractual

management of IECs.

5.4.2 PAs are responsible for the direct development and implementation of all EM&V activities required for their energy efficiency portfolio in adherence with these regulations, and for ensuring that efforts are consistent with the policies, procedures, approaches and timelines that meet Delaware's needs.

5.4.3 The PAs shall inform the EEAC of major changes to existing programs prior to their implementation so that the EEAC can develop or approve any necessary EM&V plans. Each PA must ensure that data is supplied to IECs as needed and in a timely fashion. The PAs must ensure that their program third-party implementers also track necessary data and cooperate fully with IECs in support of all EM&V activities.

5.4.4 Each PA shall annually submit an EM&V report to the EEAC highlighting findings from the past program year. The report shall be submitted within 30 days of completion of all annual EM&V reports for the following year and include the following information.

5.4.4.1 A summary of EM&V activities completed in a manner that is consistent with these regulations and with EM&V Plans approved by the EEAC.

5.4.4.2 A summary of process evaluation findings, as appropriate by program.

5.4.4.3 A summary of impact evaluation findings, as appropriate by program and for the portfolio as a whole, showing original PA tracked savings, actual evaluated gross and net savings performance, original program goals, evaluated NTG ratios, and evaluation realization rates. For programs not undergoing impact evaluations for that year, the summary should provide the tracked and claimed gross and net savings consistent with prior agreements, deemed savings and the TRM, and indicate these are unevaluated results.

5.4.4.4 Estimates of ex-post evaluation estimated savings and cost-effectiveness results by program and for the portfolio as a whole, performed and calculated in a manner consistent with the EM&V regulations.

5.4.5 The PAs shall provide quarterly progress reports that include updates on progress towards EM&V goals and expenditures and participate in update meetings as requested by the EEAC.

5.4.6 PAs are encouraged to offer their eligible program resources into the PJM RPM capacity market so long as it is cost-effective and the evaluation of such resources remains compliant with these regulations.

5.5 IEC(s) Responsibilities

5.5.1 The IEC(s) shall provide technical advice and information to the EEAC, develop and recommend EM&V plans and budgets, and conduct all EM&V research and tasks.

6.0 Evaluation Requirements

6.1 Reporting

6.1.1 EM&V reports shall provide an assessment of EM&V activities completed in a manner that is consistent with these regulations. Reports shall be provided as determined by the EEAC. The final reporting timeline shall be established so that it can efficiently and cost-effectively meet the needs of the PAs, EEAC and the PJM RPM capacity market compliance cycle whenever possible.

6.1.2 Program cycle reporting shall include both impact and process evaluations findings, as appropriate by program, and will be used to measure performance against program goals. Impact evaluations shall report energy impact estimates for each year of the program's operations and for the program cycle in total, when available. This reporting shall allow the evaluation to document program-cycle impacts as well as annual impacts that support program planning and restructuring efforts to maintain high performing programs and

portfolios.

6.1.3 Evaluation reports shall contain, at a minimum, the following:

6.1.3.1 Cover,

6.1.3.2 Title Page,

6.1.3.3 Abstract,

6.1.3.4 Table of Contents,

6.1.3.5 Executive Summary (including impact findings and process recommendations),

6.1.3.6 Introduction and Purpose of the Study,

6.1.3.7 Description of Programs Covered in Study,

6.1.3.8 Study Methodology,

6.1.3.9 Assessment of the Reliability of Study Findings,

6.1.3.10 Detailed Study Findings (impact and process evaluation),

6.1.3.11 Recommendations for Program Changes, and

6.1.3.12 For impact studies, *ex-post* cost-effectiveness results

6.1.4 The following information shall be included in a table format or bullet list within both the Executive Summary of the draft and final evaluation reports as well as in the sections of the report in which those items are presented and discussed. The goal of this requirement is to allow efficient and rapid extraction of key results to better understand the study results.

6.1.4.1 Energy Impact

6.1.4.1.1 Program and portfolio level first year annualized gross and net energy impacts

6.1.4.1.2 Program and portfolio level gross and net lifecycle energy impacts

6.1.4.1.3 For electric programs, program and portfolio level gross and net coincident peak kW

6.1.4.1.4 Program NTG ratios and estimated components

6.1.4.1.5 Program and portfolio level first year annualized gross original PA-tracked ex-ante savings

6.1.4.1.6 Program and portfolio level first year annualized gross realization rates

6.1.4.1.7 Program and portfolio level impact goals

6.1.4.1.8 Program and portfolio level achievement as a percentage of goal, based on ex-post evaluation results

6.1.4.1.9 Program and portfolio level calculated benefit-cost results based on ex-post evaluation net savings

6.1.4.2 Process Evaluation

6.1.4.2.1 Key findings from the process evaluation

6.1.4.2.2 Summary of recommendations made by the evaluation team

6.1.4.3 Market Effects

6.1.4.3.1 Timeline describing years covered by the reported effects

6.1.4.3.2 Key findings from the market effects evaluation aligning with priorities

identified by the EEAC.

6.1.4.3.3 Estimated annual and lifecycle net energy savings estimated from market effects (per technology, technology class, or market sector as appropriate)

6.1.4.3.4 Listing of major technologies and/or practices affected by market effects

6.2 Benefit-Cost Analysis

6.2.1 Energy Efficiency portfolios in Delaware must meet the benefit-cost requirements outlined in these regulations. PAs shall develop program and portfolio plans to achieve overall positive net benefits based on the cost-effectiveness test described below. PAs are responsible for providing prospective planned cost-effectiveness test results to EEAC for review at the program and portfolio level. In addition, the IECs and PAs must provide the EEAC with retrospective cost-effectiveness test results at the program and portfolio level. Portfolios shall be developed to maximize long term cost-effectiveness and consider investing in the activities and resources needed to establish the groundwork for programs in the future.

6.2.2 Cost-Effectiveness Test

6.2.2.1 Programs are considered cost-effective when the benefit-cost ratio as determined by the Total Resource Cost (TRC) test is greater than one. The TRC test compares the costs and benefits of energy efficiency programs as a resource option from the perspective of the entire economy. The formula for the TRC test is:

Benefit-Cost Ratio = Benefits / Costs, where:

Benefits = Net Present Value of (Avoided Supply Costs + Other Benefits)

Costs = Net Present Value of (Participant Costs + Utility Costs – Federal Tax Credits)

6.2.2.2 The costs are the total costs of the program, whether incurred by participants or Program Administrators. Costs include:

6.2.2.2.1 equipment and installation costs (but only those that are incremental to baseline costs),

6.2.2.2.2 increases (or decreases) in operation and maintenance costs,

6.2.2.2.3 cost of removal (less salvage value),

6.2.2.2.4 administrative costs directly attributable to the programs,

6.2.2.2.5 costs for EM&V activities, utility performance incentives, and Federal tax credits (as a reduction in cost).

6.2.2.3 Benefits include all benefits to the utility, its ratepayers, and other Delaware constituents that result from changes in energy consumption resulting from energy efficiency programs. The benefits calculated in the TRC shall include, when determined by the EEAC to be reasonably quantifiable:

6.2.2.3.1 avoided electric supply costs, based on energy costs in the respective zone of the PJM Regional Transmission Organization;

6.2.2.3.2 avoided electric transmission, distribution, and generation capacity costs, valued at marginal cost for the periods when there is a load reduction, based on relevant costs in the respective zone of the PJM Regional Transmission Organization;

6.2.2.3.3 reduced SREC and RECs requirements;

6.2.2.3.4 avoided gas supply and delivery costs;

6.2.2.3.5 the effect of lower prices for electric and gas energy and capacity in wholesale markets resulting from reductions in the quantity of energy and capacity sold in those markets, sometimes referred to as Demand-Reduction-Induced Price Effect (DRIPE);

6.2.2.3.6 non-primary fuel benefits, such as reduction in heating fuel needs (regardless of fuel type) resulting from improvements in the building envelope or other systems; and

6.2.2.3.7 avoided environmental compliance costs, where such costs can be directly tied to changes in energy use.

6.2.2.4 The benefits shall be calculated using net savings.

6.2.3 To set a standard that allows TRC tests conducted on Delaware's energy efficiency programs and portfolio to be comparable, the following guidance shall be followed.

6.2.3.1 Net present value - Cost-effectiveness of an energy efficiency measure, program, or portfolio will be calculated based on the net present value of the costs and benefits valued in the TRC test, discounted over the effective useful life of the measures installed.

6.2.3.2 Discount Rates - The discount rate used in energy efficiency and demand reduction cost-effectiveness tests shall be 4.0% on a real basis.

6.2.3.3 EUL - Measures installed via Delaware's energy efficiency programs shall have their energy savings counted and valued over the full EUL of the installed measures.

6.2.3.4 With the exception of program-specific data, inputs to cost-effectiveness tests shall not be different for different programs.

6.2.4 Although the TRC test will serve as the primary criterion for determining program cost-effectiveness, customer rate and bill impacts shall be provided in portfolio plans to help inform the planning process. The results of additional cost-effectiveness tests may also be reported.

6.2.4.1 Portfolio plans shall include projected short and long term customer rate and bill impacts for each customer class.

6.2.5 EEAC Responsibilities for Benefit-Cost Analysis

6.2.5.1 Develop or approve energy savings forecasts, avoided costs, line losses, and/or other major inputs to the benefit-cost analysis.

6.2.5.2 Monitor that Program Administrators are following the benefit-cost approaches as outlined in these regulations.

6.2.5.3 Review and approve program and portfolio level benefit-cost analysis completed by Program Administrators and/or IECs on energy efficiency portfolios and programs.

6.2.6 DNREC Responsibilities for Benefit-Cost Analysis

6.2.6.1 Coordinate with the PSC and the Public Advocate to provide advice on benefit-cost metrics, metric values, and calculation approaches.

6.2.7 Program Administrator Responsibility for Benefit-Cost Analysis

6.2.7.1 Develop estimates of avoided costs and line losses, for review, discussion and approval by the EEAC.

6.2.7.2 Perform benefit-cost analysis for energy efficiency measures, programs and portfolios for planning purposes using Delaware TRM values and best available information as appropriate.

6.2.7.3 Provide IECs with appropriate input data and ensure that the IECs perform required benefit-cost analyses based on ex-post evaluation results and submit timely reports to the EEAC.

6.2.7.4 Report planned and ex-post benefit-cost calculation results to EEAC.

6.2.7.5 Provide data and benefit-cost analyses models to the EEAC for review, if requested

6.3 Energy Impact Baseline

6.3.1 Prescriptive Measures

6.3.1.1 The baseline used for prescriptive measures shall be established in the Delaware TRM. Baselines for prescriptive measures shall follow the approaches outlined below.

6.3.1.2 For program models that are market driven, including replace on failure or end of life, new construction, renovation, remodel, or any other reason the customer is already planning to install equipment, the Delaware TRM shall use one of the following approaches to establish deemed baselines, unless specified in the Delaware TRM to be site or customer-type specific:

- **Code or standard**: Energy impact baseline is set at the minimum building code or the minimum appliance standard without compliance adjustments
- **Typical Code or Standard with Compliance Adjustment**: Energy impact baseline is set at the typically applied building code or appliance standard adjusted for estimated compliance
- **Market Mean or Mode**: Energy impact baseline is set at the mean or mode market practice for that equipment, depending on the distribution

6.3.1.3 For programs models that result in equipment replaced earlier than what would have occurred without the program (early replacement or “retrofit”), or where additional or optional equipment is added to existing equipment of systems, the baseline condition is the energy use condition prior to the program-induced change for the remaining useful life of the replaced measure. Once the remaining useful life has expired, the baseline should be established using one of the three methods outlined in 6.3.1.2 and applied to the remaining useful life.

6.3.2 Custom Measures

6.3.2.1 Baseline conditions for custom measures will be set for each project being evaluated so that it reflects the typical conditions associated with that custom application, consistent with the above guidelines for prescriptive measures. The IEC will review baseline assumptions established by project engineers, and if appropriate, suggest modifications.

6.3.3 EEAC Responsibilities for Energy Impact Baseline

6.3.3.1 Provide guidance to IECs and PAs regarding appropriate baseline approaches, assumptions and estimations.

6.3.3.2 Collaborate with the IECs and PAs on the evaluation efforts and review baseline approaches and savings assumptions to be used in the evaluation efforts ensuring they are developed in a manner consistent with the baseline approach established in these regulations.

6.3.3.3 Work to resolve any disagreements between the IECs and PAs, or other

stakeholders, regarding baseline assumptions.

6.3.3.4 Approve any IEC suggested deviations from the required approach for setting baseline conditions if properly justified and explained.

6.3.4 Program Administrator Responsibilities for Energy Impact Baseline

6.3.4.1 Provide guidance to IECs on program baseline assumptions.

6.3.4.2 Develop, in coordination with the IECs, custom baseline assumptions on a project-specific basis to support calculations of custom project gross savings.

6.4 Application of Savings

6.4.1 Program results and goal achievement in Delaware shall be reported as Ex-Post Verified Net savings. Gross program savings that are verified by evaluation activities are then adjusted using previously-determined net-to-gross (NTG) ratios to yield an ex-post, verified net savings value.

6.4.2 Gross savings will be calculated using the Delaware TRM where applicable. For measures not included in the Delaware TRM, gross savings will be calculated by other appropriate methods.

6.4.2.1 Gross savings do not account for the effects of free riders, spill over or market effects on the total program savings.

6.4.2.2 For deemed savings, ex-post savings shall be verified by the IEC and may reflect installation rate, quantity, and adjustments for errors in data collection.

6.4.2.3 Custom projects shall require engineering, metering, or other evaluation estimates that will be applied retroactively.

6.4.3 Net savings, those savings that are caused by the program's intervention in the market and that account for free riders, participant spillover and market effects, shall be used for purposes of assessing goal achievement and to provide program design and marketing guidance that can support planning for upcoming program years. An assessment of net-to-gross ratios may also be used by the the EEAC, and other policy makers to assess when a program should be redesigned or terminated as a part of the Delaware portfolio.

6.4.3.1 The EEAC shall develop or approve NTG ratios to be applied to each program prospectively each year. These NTG ratios can be derived from specific research or from other best available information. The EEAC, in consultation with the IEC, shall agree on NTG values to use going forward, informed by evaluations and all other best available information.

6.4.3.2 Estimated net-to-gross assumptions used in portfolio planning analyses shall be included with the portfolio plan submitted to EEAC.

6.4.4 Retroactive vs. prospective savings calculation

6.4.4.1 Changes in deemed energy savings or other deemed assumptions that result from program evaluation shall not be applied retrospectively, but shall be applied to the program and portfolio prospectively in the next program cycle.

6.4.4.2 Changes to deemed savings assumptions shall be coordinated through the annual process of updating the Delaware TRM.

6.4.5 Transmission and Distribution Losses

6.4.5.1 All transmission and distribution loss factors applied to customer or meter-level savings in order to estimate generation-level savings shall be based on estimates of marginal system line losses rather than average loss factors.

6.4.6 EEAC Responsibilities for Savings Calculations

6.4.6.1 The EEAC shall develop or approve gross savings analyses completed by IECs on energy efficiency portfolios and programs.

6.4.6.2 The EEAC shall coordinate with the DNREC to provide updates to the Delaware TRM so that savings used in Delaware reflect the most recent information available, including information gathered through program EM&V completed in Delaware.

6.4.6.3 The EEAC shall review and approve Program Administrator assumptions regarding savings attributable to avoided transmission and distribution system losses.

6.4.6.4 The EEAC shall reach consensus on all forward looking NTG ratios to apply to the following year.

6.4.7 PA Responsibilities for Savings Calculations

6.4.7.1 The PAs shall coordinate with the DNREC and the EEAC to provide advice on benefit-cost metrics, metric values, and calculation approaches.

6.4.8 IEC Responsibilities for Savings Calculation

6.4.8.1 The IEC shall provide to the EEAC all EM&V reports. Reports shall include, as a minimum, evaluated gross and net savings for each program.

6.4.8.2 The IEC shall recommend to the EEAC any proposed prospective modifications to the Delaware TRM or other deemed assumptions.

6.4.8.3 The IEC shall advise the EEAC, as requested, on issues related to reaching consensus on NTG ratios for each program.

7.0 Evaluation Budgeting and Budget Management

7.1 For any given program cycle, the EEAC will review evaluation budgets proposed by the PAs and the IECs to ensure funding is at a level sufficient to cover EM&V.

7.2 The EEAC shall consider the following when approving the proposed EM&V Plans and when recommending EM&V activities:

7.2.1 Programs that are expected to save more energy (in both the near-term and over their measure lifetimes) or have high demand reduction impacts should have evaluation approaches that are more rigorous than those that are expected to save less energy.

7.2.2 Programs that represent larger portions of the portfolio budget should have a level of evaluation rigor that matches the importance of the program's total financial investment.

7.2.3 Measures that have a high risk around the accuracy of the savings should have a high level of evaluation rigor, thus reducing the level of uncertainty around the energy saving estimates of that program and for the portfolio.

7.2.4 Field measurement and verification efforts should focus on the components of the portfolio that have the greatest risk of lowering the reliability of the total impact estimates.

7.2.5 Sampling approaches, sample-size targets, and confidence limits should provide the highest level of accuracy achievable balanced with the available resources. Large programs and programs that are important for reaching energy saving targets should have sampling approaches that reflect that importance. Low impact or smaller programs may have lower precision and confidence levels.

7.2.6 Budgets devoted to process evaluations should consider the likely opportunities to identify program improvements, the current success of the program in terms of participation and overall program implementation, and the likely duration of the program effort

7.2.7 In order to reduce costs and remain consistent with other regional evaluation efforts, evaluations and related activities shall leverage, to the extent possible, the activities of

other entities such as the Northeast Energy Efficiency Partnership's Regional EM&V Forum and the Department of Energy's Uniform Methods Project.

7.2.8 Where possible, evaluation activities should support the ability of the PAs to meet the EM&V requirements for participation in the PJM RPM capacity market.

8.0 Delaware Technical Reference Manual (TRM) Purpose and Updating Process

8.1 The Delaware TRM shall serve as the source for deemed gross savings and the associated calculation approaches used in Delaware.

8.2 Updates to the Delaware TRM will be aligned with the update process for the Mid-Atlantic TRM and shall be completed annually by July 1. PAs planning to launch programs the following January 1 or later will use the updated Delaware TRM in planning for the subsequent year. PAs launching new programs in advance of January 1 of the subsequent year will use the standing values until the start of their next program year, at which time they will adopt the updates from the Delaware TRM for all forward-planning and reporting purposes.

8.3 EEAC Responsibilities for Delaware TRM Updates

8.3.1 Participate in the Mid-Atlantic TRM development process.

8.3.2 Initiate and manage the update process for the Delaware TRM.

8.3.3 Lead the various aspects associated with the coordination process to ensure that all necessary information is assembled to inform discussions regarding proposed changes to the TRM.

8.3.4 Obtain opinions from evaluation and program implementation experts as needed to inform modification and other update decisions.

8.3.5 Solicit feedback from other interested parties as part of the updating process.

8.3.6 Develop and document all procedures and policies related to the Delaware TRM, its use, update schedule, and application.

8.3.7 Approve the Delaware TRM.

8.4 PA Responsibilities for Delaware TRM Updates

8.4.1 Develop recommendations for changes and new measures and participate in discussions as appropriate.

8.4.2 Inform the EEAC promptly of the desire for additional and characterization of any new measures to support program design and implementation activities.

8.4.3 Provide feedback and insight into the updating process for the Delaware TRM, including direct feedback and findings resulting from EM&V activity in Delaware.

8.4.4 Provide opinions, comments, or responses on the recommended changes provided by others.

8.5 IEC Responsibilities for Delaware TRM Updates

8.5.1 Identify appropriate modifications and updates to the EEAC, provide recommendations for new assumptions, and assist in developing Delaware TRM updates.