



STATE OF DELAWARE  
**DEPARTMENT OF NATURAL RESOURCES  
AND ENVIRONMENTAL CONTROL**

OFFICE OF THE  
SECRETARY

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**Secretary's Order No.: 2016-EC-0048**

**RE:        Approving Final New *Revised* Regulation, 7 DE Admin. Code §2105:  
              *Evaluation, Measurement & Verification Procedures and Standards*  
              (*"EM&V Regulations"*)**

**Date of Issuance:    December 15, 2016**

**Effective Date of the Amendment:    January 11, 2017**

Under the authority vested in the Secretary of the Department of Natural Resources and Environmental Control ("Department" or "DNREC") pursuant to 29 *Del.C.* §§8058 and 8059, the following findings of fact based on the record, reasons and conclusions are entered as an Order of the Secretary in the above-referenced regulatory proceeding.

**Background, Procedural History and Findings of Fact**

This Order relates to the proposed *revised* new regulation, to wit: 7 DE Admin. Code §2105: *Evaluation, Measurement & Verification Procedures and Standards* ("*EM&V Regulations*"). This promulgation seeks to finalize proposed *revised* new EM&V regulations as follows, to wit: (1) develop and govern the overall approach to the evaluation of energy efficiency and demand response programs in Delaware; (2) standardize evaluation approaches for the assessment of energy efficiency and demand

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response programs; (3) provide specific guidance to Program Administrators<sup>1</sup>, contractors and stakeholders for the evaluation of energy efficiency and demand response programs; and (4) ensure consistency between Program Administrators' energy efficiency evaluation plans, analysis, and reporting efforts.

Senate Bill 150 (with House Amendment 2) passed on July 1, 2014, was signed by Governor Markell on August 6, 2014, and was codified as 29 *Del.C.* §8059. This legislation enables Delaware electric and gas utilities to provide cost-effective energy efficiency programs to their customers, and helps Delaware meet the requirements of the Energy Efficiency Resource Standard Act ("EERS Act", "EERS"). Said legislation also requires DNREC to develop regulations to govern the expansion of cost-effective energy efficiency programs in Delaware, pursuant to 29 *Del.C.* §8059(h)(3).

The State of Delaware's Energy Efficiency Advisory Council ("EEAC") was also created pursuant to 29 *Del.C.* §8059. This thirteen-person council is comprised of energy efficiency stakeholders from DNREC, the Delaware Sustainable Energy Utility ("SEU"), and affected energy providers and representatives from the manufacturing, commercial environmental, agricultural, low-income, and residential sectors. The EEAC assists affected energy providers in the development of energy efficiency, peak demand reduction, and emission-reducing fuel switching programs. In collaboration with the Delaware Public Advocate ("DPA") and Public Service Commission ("PSC"), the EEAC is tasked to review energy efficiency program plans to ensure that programs are deployed

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<sup>1</sup> "Program Administrator (PA)" is a defined term, both statutorily and within this new proposed regulation, as follows: "...any effected energy providers, as defined by 29 *Del.C.* §8059(h) and any other entities who deliver energy efficiency programs and want the energy savings generated to count toward the statewide energy reductions goals."

and energy savings targets are met through evaluation, measurement, and verification standards.

The Department oversees the competitive process for acquiring EEAC consulting services, as well as the management of day-to-day consultant efforts. The Chair of the EEAC, and any subcommittees therein, are charged to plan, implement and review the responsibilities defined within the proposed new EM&V Regulations. The EEAC reviews and recommends programs submitted by Program Administrators (“PAs”), reviews and approves the recommendations of subcommittees, and reviews and recommends portfolio-level EM&V plans and budgets. Independent Evaluation Contractors (“IECs”) provide technical advice and information, develop and recommend EM&V plans and budgets, and conduct all EM&V research and tasks.

The aforementioned proposed new EM&V Regulations define the standards for EM&V procedures as administered by the EEAC. The Department believes that EM&V is a vital tool in creating consensus around the impact of current and future investments to reduce energy use and peak demand in Delaware. Results from EM&V are critical to the assessment of progress in meeting Delaware’s energy efficiency and peak demand targets as outlined in the EERS, the State of Delaware’s “Lead by Example” policy, and the Delaware SEU’s legislated goals. The results from EM&V provide valuable feedback to improve programs during implementation (or suggest their cancellation), inform the development of new programs, and guide the allocation of resources.

The Department’s Division of Energy & Climate commenced the regulatory development process with Start Action Notice 2014-08 dated October 23, 2014. The Department published its initial proposed regulation Amendments in the August 1, 2016

*Delaware Register of Regulations.* After numerous public workshops, stakeholder meetings, discussions and reviews, the Department placed legal notices in both the News Journal and the Delaware State News advertising that a public hearing would be held on August 29, 2016, to provide an opportunity for the public to comment on the draft regulation.

Members of the public attended the August 29, 2016 hearing, and comment was received by the Department with regard to the proposed measures referenced above, both at the time of the public hearing and during the post-hearing phase of this promulgation. Pursuant to Delaware law, the record remained open for fifteen (15) additional days subsequent to the date of the public hearing, for the purpose of receiving additional public comment. Again, all proper notification and noticing requirements concerning this proposed promulgation were met by the Department in this matter.

The hearing record formally closed with regard to public comment at close of business on September 13, 2016. At that time, all comments received from the public (both at the time of the hearing and during the post-hearing process) were thoroughly reviewed by responsible Department staff, and a formal Technical Response Memorandum was prepared in response to the same by the Department's Division of Energy & Climate ("Division TRM"), and was incorporated into the Hearing Officer's Report as Appendix "A".

This Division TRM, dated October 12, 2016, summarizes the hearing record compiled in this matter, documents the exhaustive review performed by the Department with regard to the comment received regarding this proposed regulatory promulgation, and offers the Department's response to all comments received throughout this long

regulatory process. Of note is the fact that, in response to some of the comment received, the Department has made changes to the proposed new regulation. These changes do not alter the meaning or function of the proposed regulation, but rather provide additional clarity and greater understanding for the regulated community. Thus, since these changes are not construed to be substantive in nature, no additional re-publication or noticing of this proposed regulation is necessary at this time.

The Department's presiding hearing officer, Lisa A. Vest, prepared a Hearing Officer's Report dated December 2, 2016 ("Report"). The Report documents the proper completion of the required regulatory amendment process, establishes the record, and recommends the adoption of the proposed *revised* new Regulation as attached to the Report as Appendix "B".

### **Reasons and Conclusions**

Based on the record developed by the Department's experts and established by the Hearing Officer's Report, I find that the proposed *revised* new regulation, to wit: 7 DE Admin. Code §2105: *Evaluation, Measurement & Verification Procedures and Standards*, is well-supported. Therefore, the recommendations of the Hearing Officer are hereby adopted, and I direct that the proposed regulatory *revised* new regulation be promulgated as final. Further, I find that the Department's experts in the Division of Energy and Climate fully developed the record to support adoption of this *revised* new regulation.

In conclusion, the following reasons and conclusions are entered:

1. The Department has the statutory basis and legal authority to act with regard to the proposed *revised* new regulation, pursuant to 29 *Del.C.* §8059(h);

2. The Department has jurisdiction under its statutory authority, pursuant to 7 *Del.C.* Ch. 60, to issue an Order adopting these proposed *revised* new regulation as final, as shown in Appendix “B”;

3. The Department provided adequate public notice of the proposed regulatory amendments and all proceedings in a manner required by the law and regulations, provided the public with an adequate opportunity to comment on the proposed regulatory amendments, including at the time of the public hearing held on August 29, 2016, and held the record open through close of business on September 13, consistent with 29 *Del.C.* §10118(a), in order to consider public comment on this proposed new regulation before making any final decision;

4. While the Department made changes to the initially proposed regulatory language, as set forth in the above-referenced Division TRM of October 12, 2016, such changes do not alter the meaning or function of the proposed new regulation, and therefore no additional re-publication or noticing of this proposed regulation is necessitated at this time;

5. The Department’s Hearing Officer’s Report, including its established record and the recommended proposed *revised* new regulation as set forth in Appendix “B”, are hereby adopted to provide additional reasons and findings for this Order;

6. The adoption of the proposed *revised* new regulation, 7 DE Admin. Code §2105: *Evaluation, Measurement & Verification Procedures and Standards*, will allow Delaware to (1) develop and govern the overall approach to the evaluation of energy efficiency and demand response programs in Delaware; (2) standardize evaluation approaches for the assessment of energy efficiency and demand response programs; (3)

provide specific guidance to Program Administrators, contractors and stakeholders for the evaluation of energy efficiency and demand response programs; and (4) ensure consistency between Program Administrators' energy efficiency evaluation plans, analysis, and reporting efforts.

7. The Department has reviewed these proposed regulatory Amendments in the light of the Regulatory Flexibility Act, consistent with 29 *Del.C.* Ch. 104, and believes the same to be lawful, feasible and desirable, and that the recommendations as proposed should be applicable to all Delaware citizens equally;

8. The Department's proposed *revised* new regulation, as originally published in the August 1, 2016 *Delaware Register of Regulations*, and as *revised and set* forth in Appendix "B" of the aforementioned Report, are adequately supported, are not arbitrary or capricious, and are consistent with the applicable laws and regulations. Consequently, they are approved as final *revised* new regulation, which shall go into effect ten days after their publication in the next available issue of the *Delaware Register of Regulations*; and

9. The Department shall submit this Order approving as final the proposed *revised* new regulation, 7 DE Admin. Code §2105: *Evaluation, Measurement & Verification Procedures and Standards*, to the *Delaware Register of Regulations* for publication in its next available issue, and provide such other notice as the law and regulation require and the Department determines is appropriate.



David S. Small  
Secretary



## HEARING OFFICER'S REPORT

**TO:** The Honorable David S. Small  
Cabinet Secretary, Department of Natural Resources and Environmental Control

**FROM:** Lisa A. Vest   
Public Hearing Officer, Office of the Secretary  
Department of Natural Resources and Environmental Control

**RE:** **Proposed New Revised Regulation 7 DE Admin. Code §2105:**  
*Evaluation, Measurement & Verification Procedures and Standards*  
*("EM&V Regulations")*

**DATE:** December 2, 2016

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### **I. BACKGROUND AND PROCEDURAL HISTORY:**

A public hearing was held on Monday, August 29, 2016, at 6:00 p.m. by the Department of Natural Resources and Environmental Control ("DNREC", "Department"), at the Richardson & Robbins Auditorium, 89 Kings Highway, Dover, Delaware to receive comment on proposed new regulations ("Regulations") to 7 DE Admin. Code §2105: *Evaluation, Measurement & Verification Procedures and Standards* ("EM&V", "EM&V Regulations"). Senate Bill 150 (with House Amendment 2) passed on July 1, 2014, was signed by Governor Markell on August 6, 2014, and was codified as 29 *Del.C.* §8059. This legislation enables Delaware electric and gas utilities to provide cost-effective energy efficiency programs to their customers, and helps Delaware meet the requirements of the Energy Efficiency Resource Standard Act ("EERS Act", "EERS"). Said legislation also requires DNREC to develop regulations to govern the expansion of cost-effective energy efficiency programs in Delaware, pursuant to 29 *Del.C.* §8059(h)(3).

The State of Delaware's Energy Efficiency Advisory Council ("EEAC") was also created pursuant to 29 *Del.C.* §8059. This thirteen-person council is comprised of energy efficiency

stakeholders from DNREC, the Delaware Sustainable Energy Utility (“SEU”), and affected energy providers and representatives from the manufacturing, commercial environmental, agricultural, low-income, and residential sectors. The EEAC assists affected energy providers in the development of energy efficiency, peak demand reduction, and emission-reducing fuel switching programs. In collaboration with the Delaware Public Advocate (“DPA”) and Public Service Commission (“PSC”), the EEAC is tasked to review energy efficiency program plans to ensure that programs are deployed and energy savings targets are met through evaluation, measurement, and verification standards.

The Department oversees the competitive process for acquiring EEAC consulting services, as well as the management of day-to-day consultant efforts. The Chair of the EEAC, and any subcommittees therein, are charged to plan, implement and review the responsibilities defined within the proposed new EM&V Regulations. The EEAC reviews and recommends programs submitted by Program Administrators<sup>1</sup> (“PAs”), reviews and approves the recommendations of subcommittees, and reviews and recommends portfolio-level EM&V plans and budgets. Independent Evaluation Contractors (“IECs”) provide technical advice and information, develop and recommend EM&V plans and budgets, and conduct all EM&V research and tasks.

Facilitating the efforts of the EM&V (and working to reach consensus on all EM&V issues in general) are the EEAC consultants. These EEAC consultants advise, inform and provide services related to developing, reviewing and monitoring all EM&V planning and implementation activities, and work closely with the IECs to ensure the independence of the

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<sup>1</sup> “Program Administrator (PA)” is a defined term, both statutorily and within this new proposed regulation, as follows: “...any affected energy providers, as defined by 29 *Del.C.* §8059(h) and any other entities who deliver energy efficiency programs and want the energy savings generated to count toward the statewide energy reductions goals.”

process. The PAs then designate a representative that is an active participant in all EM&V activities, and provide day-to-day management of the IECs.

The reporting requirements outlined in the proposed new EM&V Regulations provide that EM&V reports shall provide an assessment of all activities completed in a manner consistent with the regulations and accepted best practices. Such assessments are further defined in Section 6.0 of the proposed regulations, which include, but are not limited to, the following: energy impact estimates for each year of a program's operation; key findings from the process evaluation; key findings from the market effects evaluation; prospective and retrospective benefit-cost information (Total Resource Cost [TRC] testing); and development of comprehensive three-year EM&V plans. Additionally, annual portfolio plan updates shall occur, allowing for justified modifications to the overall three-year plans to accommodate new information or program changes. Each PA shall submit an EM&V report to the EEAC on an annual basis, and DNREC shall annually publish a report on statewide electricity and natural gas consumption and peak demand. This report shall be made available to the public.

The Delaware Technical Reference Manual, or TRM, shall serve as the primary source for deemed gross savings and the associated calculation approaches used in Delaware. The Energy Impact Baseline shall be established in the Delaware TRM. The Delaware TRM shall consist of the current version of the Mid-Atlantic TRM, as published by the Northeast Energy Efficiency Partnership ("NEEP"), plus any additional measures or revisions to address Delaware-specific conditions. In order to maximize transparency, the Delaware TRM and the Mid-Atlantic TRM are included as part of the regulations, and not simply referenced therein.

The aforementioned proposed new EM&V Regulations define the standards for EM&V procedures as administered by the EEAC. The Department believes that EM&V is a vital tool in creating consensus around the impact of current and future investments to reduce energy use and peak demand in Delaware. Results from EM&V are critical to the assessment of progress in meeting Delaware's energy efficiency and peak demand targets as outlined in the EERS, the State of Delaware's "Lead by Example" policy, and the Delaware SEU's legislated goals. The results from EM&V provide valuable feedback to improve programs during implementation (or suggest their cancellation), inform the development of new programs, and guide the allocation of resources.

The purpose of these proposed new EM&V regulations is as follows, to wit: (1) develop and govern the overall approach to the evaluation of energy efficiency and demand response programs in Delaware; (2) standardize evaluation approaches for the assessment of energy efficiency and demand response programs; (3) provide specific guidance to Program Administrators, contractors and stakeholders for the evaluation of energy efficiency and demand response programs; and (4) ensure consistency between Program Administrators' energy efficiency evaluation plans, analysis, and reporting efforts.

The Department's Division of Energy and Climate prepared its Start Action Notice ("SAN") No. 2014-08 to officially begin this proposed promulgation on October 23, 2014. The initial proposed new regulation as referenced above was initially published in the *State of Delaware Register of Regulations* on August 1, 2016. After numerous public workshops, stakeholder meetings, discussions and reviews, the Department placed legal notices in both the News Journal and the Delaware State News advertising that a public hearing would be held on August 29, 2016, to provide an opportunity for the public to comment on the draft regulation.

The Department has the statutory basis and legal authority to act with regard to the proposed new EM&V Regulations, pursuant to the *Delaware Energy Act, 29 Del.C. §8059(h)*. Members of the public attended the August 29, 2016 hearing, and comment was received by the Department with regard to the proposed measures referenced above. It should also be noted that all proper notification and noticing requirements concerning this matter were met by the Department. Proper notice of the hearing was provided as required by law.

## **II. SUMMARY OF THE PUBLIC HEARING RECORD:**

The public hearing record consists of the following: (1) nine (9) documents introduced by responsible Department staff at the public hearing held on August 29, 2016, and marked by this Hearing Officer accordingly as Department Exhibits 1-9; and (3) the Department's Technical Response Memorandum ("TRM") from Emily St. Clair, Planner II, DNREC Division of Energy & Climate, dated October 12, 2016. The Department's person primarily responsible for the drafting and overall promulgation of this proposed new Regulation, Emily St. Clair, developed the record with the relevant documents in the Department's files.

As noted above, the purpose of this proposed regulatory promulgation is to propose rules to govern how the Department administers its obligation to develop regulations to govern the expansion of cost-effective energy efficiency programs in Delaware, pursuant to *29 Del.C. §8059(h)(3)*. The aforementioned proposed new regulation was presented and thoroughly vetted by the Department at several workshops, stakeholder meetings, and at the public hearing held on August 29, 2016. Members of the public attended that hearing, and comment was received by the Department, both at the time of the hearing and during the post-hearing phase of this rulemaking process. Again, all proper notification and noticing requirements concerning this proposed promulgation were met by the Department in this matter.

Subsequent to the close of the hearing record for public comment on September 13, 2016, the Department's Division of Energy & Climate ("DEC") thoroughly reviewed the hearing record, which includes comment received from the following: (1) Tony DePrima (Delaware SEU); (2) Regina Iorii (Delaware Division of the Public Advocate); and (3) Jamie Nutter (Delaware Municipal Electric Corporation, Inc.). The DEC then prepared its formal Technical Response Memorandum ("Division TRM"), dated October 12, 2016. This Division TRM summarizes the hearing record compiled in this matter, documents the exhaustive review performed by the Department with regard to the comment received regarding this proposed regulatory promulgation, and offers the Department's response to all comments received throughout this long regulatory process. Of note is the fact that, in response to some of the comment received, the Department has made changes to the proposed new regulation. These changes do not alter the meaning or function of the proposed regulation, but rather provide additional clarity and greater understanding for the regulated community. Thus, since these changes are not construed to be substantive in nature, no additional re-publication or noticing of this proposed regulation is necessary at this time.

The Department's aforementioned TRM does an excellent job of identifying all of the comment received concerning this detailed and complex rulemaking, and discusses the same in a thorough and balanced manner, while accurately reflecting the information contained in the hearing record. Thus, the Department's Division TRM of October 12, 2016 is expressly incorporated into this Report, and attached hereto for that purpose as Appendix "A".

### **III. RECOMMENDED FINDINGS AND CONCLUSIONS:**

Based on the record developed, I find and conclude that the Department has provided appropriate reasoning regarding the need for the proposed *revised* 7 DE Admin. Code §2105:

*Evaluation, Measurement & Verification Procedures and Standards*, as noted above. Accordingly, I recommend promulgation of this proposed *revised* new regulation, in the customary manner provided by law.

Further, I recommend the Secretary adopt the following findings and conclusions:

1. The Department has the statutory basis and legal authority to act with regard to the proposed *revised* new regulation, pursuant to 29 *Del.C.* §8059(h);

2. The Department has jurisdiction under its statutory authority, pursuant to 7 *Del.C.* Ch. 60, to issue an Order adopting this proposed *revised* new regulation as final;

3. The Department provided adequate public notice of the initial proposed new regulation and all proceedings in a manner required by the law and regulations, provided the public with an adequate opportunity to comment on said new regulation, including at the times of each public hearing and all post-hearing phases of this promulgation as referenced in detail above, consistent with 29 *Del.C.* §10118(a), in order to consider all public comment on the same before making any final decision;

4. While the Department made changes to the initially proposed regulatory language, as set forth in the above-referenced Division TRM of October 12, 2016, such changes do not alter the meaning or function of the proposed new regulation, and therefore no additional re-publication or noticing of this proposed regulation is necessitated at this time;

5. Promulgation of the proposed *revised* new regulation, 7 DE Admin. Code §2105: *Evaluation, Measurement & Verification Procedures and Standards*, will allow Delaware to (1) develop and govern the overall approach to the evaluation of energy efficiency and demand response programs in Delaware; (2) standardize evaluation approaches for the assessment of energy efficiency and demand response programs; (3) provide specific guidance to Program

Administrators, contractors and stakeholders for the evaluation of energy efficiency and demand response programs; and (4) ensure consistency between Program Administrators' energy efficiency evaluation plans, analysis, and reporting efforts;

6. The Department has reviewed this proposed *revised* new regulation in the light of the Regulatory Flexibility Act, consistent with 29 *Del.C.* Ch. 104, and believes the same to be lawful, feasible and desirable, and that the recommendations as proposed should be applicable to all Delaware citizens equally;

7. The Department's proposed *revised* new regulation, as originally published in the August 1, 2016 *Delaware Register of Regulations*, and as *revised* and set forth in Appendix "B" hereto, is adequately supported, is not arbitrary or capricious, and is consistent with the applicable laws and regulations. Consequently, it should be approved as a final *revised* new regulation, which shall go into effect ten days after its publication in the next available issue of the *Delaware Register of Regulations*; and

8. The Department shall submit the proposed *revised* new regulation as a final new regulation, to wit: 7 DE Admin. Code §2105: *Evaluation, Measurement & Verification Procedures and Standards* to the *Delaware Register of Regulations* for publication in its next available issue, and provide such other notice as the law and regulation require and the Department determines is appropriate.



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LISA A. VEST  
Public Hearing Officer

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Attachments/Appendix:

Appendix A: Div. of Energy and Climate TRM (10/12/16)

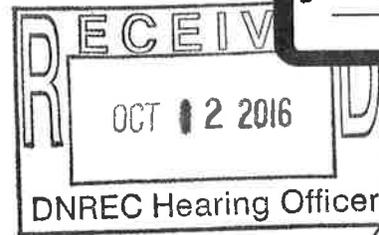
Appendix B: Proposed *revised* new regulation

## **APPENDIX "A"**



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Ex. #3 (LAN)



October 12, 2016

**MEMORANDUM**

To: Lisa Vest, Hearing Officer

Through: Philip Cherry, Director, Division of Energy & Climate  
Rob Underwood, Energy Program Administrator, Division of Energy & Climate

From: Emily St. Clair, Planner II, Division of Energy & Climate

*[Handwritten signatures and dates: P, RUC, EST, 10-12-16]*

Date: October 12, 2016

Re: Proposed Regulation 2105 Evaluation, Measurement & Verification Regulations  
Proposed to Implement 29 Del. C. §8059

You presided over a public hearing on Monday, August 29, 2016 at 6:00 p.m. at the Richardson & Robbins auditorium, 89 Kings Highway, Dover, Delaware 19904 on Proposed Regulation 2105 Evaluation, Measurement & Verification Regulations, Proposed to Implement 29 Del. C. §8059

The following exhibits were introduced into the record at the hearing:

Exhibit 1	A copy of Senate Bill 150
Exhibit 2	A copy of Senate Bill 150 with House Amendment 2
Exhibit 3	A copy of an October 23, 2014 memorandum to the Office of the Governor, Members of the Senate Natural Resources and Environmental Control Committee and Members of the House Environmental and Natural Resources Committee with the approved SAN #2014-08 to develop regulations to govern the expansion of cost-effective energy efficiency programs in Delaware pursuant to 29 Del. C. §8059(h)(3)
Exhibit 4	A copy of Register Notice and proposed regulations, as it appeared in the August 1, 2016 Delaware Register of Regulations

Exhibit 5	Evidence for the publication of the legal notice in the Delaware Public meetings calendar, Delaware State News, the News Journal and WBOC
Exhibit 6	A copy of the completed regulatory flexibility analysis and impact statement form as it appears in the Delaware Register of Regulations
Exhibit 7	A copy of the Press Release as it appears on the news.delaware.gov website
Exhibit 8	A copy of 29 Delaware Code §8059 as it appears on the Delaware Code website
Exhibit 9	A copy of the power point presentation as given at the public hearing in Richardson and Robbins Building on August 29, 2016

The following offered oral comments at the hearing on August 29, 2016:

<b>Name</b>	<b>Affiliation</b>
Tony DePrima	Delaware Sustainable Energy Utility (SEU)

The Department received written comments from the following after the hearing:

<b>Date Received</b>	<b>Name</b>	<b>Affiliation</b>
August 30, 2016	Regina Iorii	Delaware Division of the Public Advocate (DPA)
September 13, 2016	Jamie Nutter	Delaware Municipal Electric Corporation, Inc (DEMEC)

All of the above listed documents are attached.

This memorandum provides a summary of the comments received and the response of the Division of Energy & Climate.

### **1. Comments on the Definition of Program Administrator**

Tony DePrima indicated he would like a definitional change of “Program Administrator”.

The enabling legislation, specifically 8059(h), is geared towards affected energy providers. And the definition of an “affected energy provider” under 8059A is –it means an affected electric energy provider or an affected natural gas distribution company. We think that same, exact language should be entered in for the definition of a program administrator.

Hearing Transcript, p 13, line 6-15

### ***Department Response***

The Department intentionally defined the program administrator as “investor-owned or municipal utility or other entities administering any energy efficiency programs governed under 8059(h)” so that more entities who wished to be included in the statewide energy reduction goals could do so. The Department acknowledges the request for more clarity around the definition and will change the definition of Program Administrators to read as follows: “means any effected energy providers, as defined by 29 Delaware Code § 8059(h) and any other entities who deliver energy efficiency programs and want the energy savings generated to count towards the statewide energy reduction goals”. This edit is for clarity and greater understanding for the regulated community.

## **2. Comments of the Definition of Deemed Savings**

The DPA recommends that the last three sentences of the definition be stricken.

The DPA argued that:

We do not believe that they add any value to the understanding of what ‘deemed savings’ means, and only serve to introduce confusion about the role of the EEAC.

Iorii, p. 2

### ***Department Response***

The Department accepts these comments, and will remove the last three sentences in the definition of deemed savings in section 3.0 of the proposed regulations to provide the clarity that the DPA is seeking. The definition still reads the same after the modification, and does not change the meaning of deemed savings.

## **3. Comments on Section 5.3.1 in the regulations**

The DPA does not think that the regulations should contain a provision for DNREC to hire a consultant.

The DPA does not believe it is necessary to write a consultant’s role into a regulation.

Iorii, p. 2

### ***Department Response***

The regulations read as follows:

DNREC *may* hire an EEAC Consultant to represent the EEAC and to assist with the planning and oversight of EM&V activities in Delaware (emphasis added).

The Department believes that since the regulations do not require DNREC to hire a consultant, and the requested edits will not change that, there is no value to be gained by changing section 5.3.1. There will be no changes to the regulations as a result of this comment.

#### **4. Comments on section 6.2.1. Cost- Benefit Requirements**

The DPA believes that the language is in conflict with the legislation that states all programs and portfolios must pass the cost-benefit test.

Nevertheless, we continue to believe that the language continues to be in conflict with the legislations. Individual programs must be cost effective.

Iorii p. 3

#### ***Department Response***

The Department does not agree that language is in conflict with the legislation. The following sections clearly state that every program must pass the cost-benefit test:

6.2.1 – PAs shall develop *programs* and portfolio plans to achieve overall positive net benefits based on the cost-effectiveness test described below (emphasis added).

6.2.1 – PAs are responsible for providing prospective planned cost-effectiveness test results to EEAC for review at the *program* and portfolio level (emphasis added).

6.2.2.1 – *Programs* are considered cost-effective when the benefit-cost ratio as determined by the Total Resource Cost test is greater than one (emphasis added).

We believe the language is very clear and repeatedly outlines that programs and portfolios must pass the cost benefit test. To further clarify, the Department will change the first sentence of 6.2.1 to read, “Energy Efficiency programs and portfolios...” and will remove the word “overall” from the second sentence of 6.2.1. The intent of the section remains intact, and there are no fundamental changes to the requirements in this section.

#### **5. Comments on Discount Rates versus Weighted Average Cost of Capital**

The DPA feels that the designated discount rate of 4% is very low and appears to reflect the discount rate typically used in the Societal Cost Test. They would like the discount rate to be replaced with the Weighted Average Cost of Capital (WACC).

#### ***Department Response***

The 4% real discount rate is appropriate because the Total Resource Cost (TRC) test takes the perspective of the economy as a whole, and therefore a discount rate that reflects a societal time preference of investment is more relevant than a rate based on the private cost of capital (e.g. WACC). Also, efficiency investments are lower risk than traditional supply-side investments, and therefore future benefits should not be discounted as highly. Discount rates should be specified in real, not nominal, terms to eliminate the effects of inflation on cost-effectiveness calculations; based on projected near-term inflation rates, a 4% real discount rate is conservative (i.e., more likely to understate, rather than overstate, future benefits). There will be no changes to the regulations as a result of this comment.

## **6. Comments on Sections 6.2.5 and 6.2.6 EEAC and DNREC Responsibilities**

These sections establish the responsibilities of the EEAC and DNREC with regards to benefit-cost analysis. The DPA would like the clarification on intent of DNREC responsibilities for benefit-cost analysis, further:

The DPA is somewhat confused by these two sections of the Proposed Regulations. Sections 8059 (h)(1)(b) of the Delaware Energy Act states that the EEAC, not DNREC, shall collaborate with the Public Service Commission (PSC) and the DPA to “recommend candidate energy efficiency, and reduction, and emission-reducing fuel-switching program elements that are cost-effective, reliable and feasible, including financing mechanisms.

Iorii, p. 4

### ***Department Response***

The Department notes DPA’s concern, and will move section 6.2.6.1 to become the new section 6.2.5.4 under the EEAC Responsibilities for Benefit-Cost Analysis. This will add the clarification the DPA is seeking without changing the intent and overall purpose of the statement, or shifting responsibilities. DNREC holds the position of chair of the EEAC; it is the responsibility of the Chair to reach out to PSC and DPA for any collaboration efforts on behalf of the full Council. Therefore, by moving section 6.2.6.1 to become the new 6.2.5.4 there will be no change in intent or shift of responsibility fundamentally.

## **7. Comments on the 7.2.4 Terminology**

The DPA is seeking clarification on a terminology issue:

If the term “components” is meant to refer to individual programs that comprise a portfolio, it should be changed to “programs”. Otherwise, the term “components” should be defined.

Iorii, p. 4

### ***Department Response***

The Department acknowledges the terminology disparity. This is a missed edit from the earlier stages of the regulations. The intent is to refer to individual programs that comprise a portfolio, as the DPA indicated. The Department will change “components” to “programs”. The two terms can be used interchangeably, but for consistency across the regulations, the missed edit will be corrected to “programs”. This edit will not modify the intent of the section.

## **8. Comments on the Mandatory Requirements of the Regulations**

DEMEC states:

DEMEC representatives participated in the EEAC meetings as part of the promulgation of the Regulations, and DEMEC does not believe DNREC intends the Regulation to be mandatory as to DEMEC.

Nutter, p. 5

In order to avoid any confusion, however, DEMEC respectfully requests that DNREC respond to these comments by either: 1) amending the Regulation to include a provision mirroring the first sentence of section 85059(h)(1)(f) as a part of Paragraph 5.4 detailing the responsibilities of Program Administrators; or 2) confirming DEMEC’s interpretation as to the non-binding nature of the Regulation in the Secretary’s Order adopting the Regulation.

Nutter, p. 6

### ***Department Response***

The enabling legislation and resulting Delaware Code changes are clear as to who is mandated to follow the EM&V regulations.

In the spirit of brevity and simplicity, we have added the following language to section 1.0, “Affected energy providers that are not regulated by the Commission may elect to develop, implement and fund programs for energy efficiency and peak demand reduction recommended for approval by the boards of directors for rural electric cooperative or the pertinent local regulatory authorities for municipal electric companies”. The addition of this statutory language does not change the intent of these regulations nor whom they apply to since it is simply restating the aforementioned statute.

## **APPENDIX “B”**



## 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). **[Affected energy providers that are not regulated by the Commission may elect to develop, implement and fund programs for energy efficiency and peak demand reduction recommended for approval by the boards of directors for rural electric cooperative or the pertinent local regulatory authorities for municipal electric companies.]**

#### 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), any effected energy providers, as defined by 29 Delaware Code § 8059(h) and any other entities who deliver energy efficiency programs and want the energy savings generated to count towards the statewide energy reduction goals.~~

**“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 [programs and] 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.

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

**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 6.2.6] Program Administrator Responsibility for Benefit-Cost Analysis**

**6.2.7.1 [6.2.6.1]** Develop estimates of avoided costs and line losses, for review, discussion and approval by the EEAC.

**6.2.7.2 [6.2.6.2]** 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 [6.2.6.3]** 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 [6.2.6.4]** Report planned and ex-post benefit-cost calculation results to EEAC.

**6.2.7.5 [6.2.6.5]** 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 programs]** 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.

