Energy Technologies Area Lawrence Berkeley National Laboratory

Demand Side Efficiency EM&V and the Clean Power Plan

Presentation #2: EE EM&V and the CPP

Presentation for:
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Introduction

LBNL is supported by the U.S. Department of Energy to conduct non-classified research, operated by the University of California

- Provides technical assistance to states—primarily state energy offices and utility regulatory commissions
- Assistance is independent and unbiased

The presentation was funded by the U.S. Department of Energy's Office of Electricity Delivery and Energy Reliability-National Electricity Delivery Division under Lawrence Berkeley National Laboratory Contract No. DE-AC02-05CH11231.

Disclaimers

The information presented herein does not represent and is not suggestive of any U.S. Department of Energy (DOE) or Lawrence Berkeley National Laboratory (LBNL) positions with respect to the Clean Power Plan (CPP), CPP documents, or strategies/actions that states, electricity generating units (EGUs), or others should, can or may take with respect to CPP compliance.

In addition, some of the information and concepts referenced herein are based, at least in part, on these proposed EPA documents:

- Federal Plan Requirements for Greenhouse Gas Emissions from Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations, and
- Evaluation Measurement and Verification (EM&V) Guidance for Demand-Side Energy Efficiency.

These documents are in proposed and draft form, respectively, for public input; as such they are subject to change. DOE and LBNL are not taking positions on the proposed documents.

State, EGUs, or other parties should contact their U.S. EPA regional office if they have questions concerning the CPP. Further information on the CPP can be found at the U.S. EPA CPP website: http://www2.epa.gov/cleanpowerplan/clean-power-plan-existing-power-plants

Topics

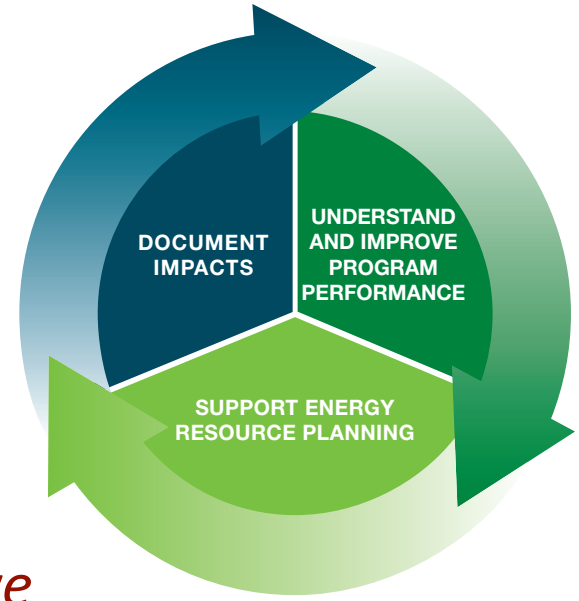
- Quick review of the first webinar
- How demand-side energy efficiency (EE) fits into the CPP
  - Rate based plans
  - Mass-based plans
  - CEIP
- EM&V and the CPP – mass and rate
- Requirements and guidance for EM&V for rate based plans
- EM&V topics on which EPA is soliciting comment

First Webinar Review – EE & EM&V

- Demand Side Energy Efficiency (EE)
  - An established, least cost resource that supports grid reliability and reduces environmental impacts of generation
  - There are a wide range of EE policies, programs and project types that can be implemented with public and private sector support
- Evaluation, Measurement and Verification - EM&V
  - Several types of evaluation: impact, process, market effects, cost-effectiveness. The CPP focus is on impact
  - Impact evaluations produce estimates of energy savings
  - Components of impact evaluation: verify potential to generate savings and determine savings
  - Impact evaluation metrics are gross savings, net savings and non-energy impacts. The CPP focus is on gross with a common practice baseline
  - Three approaches to determine gross savings: deemed values, comparison group methods, and project based measurement and verification

First Webinar Review – EM&V & Resources

- Key issues for EM&V
  - How good is good enough
  - Defining baselines
- EM&V is integral to EE planning and implementation and supports documenting impacts, resource planning and understand why the effects occurred
  - *things that are measured tend to improve*



- EM&V is an established field with many resources available to support EM&V implementation; for example see:
  - EPA/DOE State and Local Energy Efficiency Action Network (SEE Action) – http://www.epa.gov/cleanenergy/energy-programs/seeaction/index.html
  - The Northwest Regional Technical Forum – an advisory committee established to develop standards to verify and evaluate conservation savings http://www.nwcouncil.org/rtf/about.htm

First Webinar Review – SEE Action Web Portal

https://www4.eere.energy.gov/seeaction/evaluation-measurement-and-verification-resource-portal

SEE Action

STATE & LOCAL ENERGY EFFICIENCY ACTION NETWORK

Our Network | Resources | Recent Actions | Events | Technical Assistance | En

EVALUATION, MEASUREMENT, AND VERIFICATION RESOURCE PORTAL

The State and Local Energy Efficiency Action Network (SEE Action) Evaluation, Measurement, and Verification (EM&V) Resource Portal is an EM&V resource compendium for energy efficiency program administrators and project managers. The resources focus on tools and approaches that can be applied nationwide, address EM&V consistency, and are recognized by the industry.

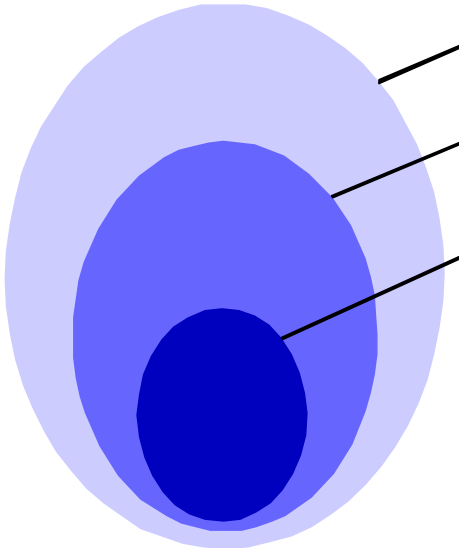
This web portal identifies helpful resources in the targeted categories below:

- EM&V Guidance for Multiple Sectors
- Sector Specific EM&V Resources
- Regional Resources on EM&V Consistency
- Resources on Air Quality Impact Evaluation
- Learn More and Get Involved
- Other Resources

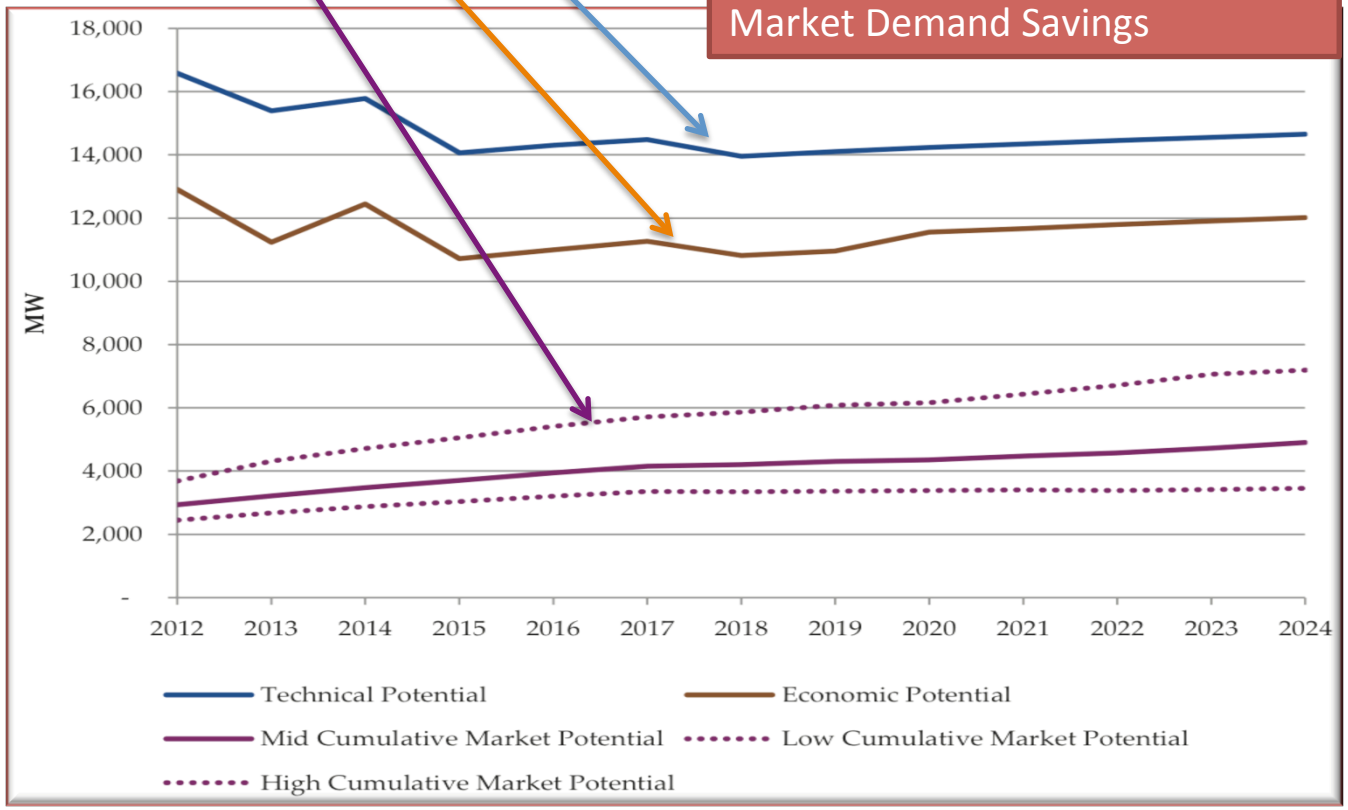
What is EM&V?

EM&V refers to the procedures
product, service, or system to
requirements and specification
the intended purpose fulfilled.
EM&V is the collection of appr
determining and documenting
energy benefits resulting from
efficiency activities and progra
can confirm energy savings, ve
effectiveness, and guide future
investment decisions.

First Webinar Review - Potential Studies



Example: Gross Technical, Economic, and Cumulative Market Demand Savings



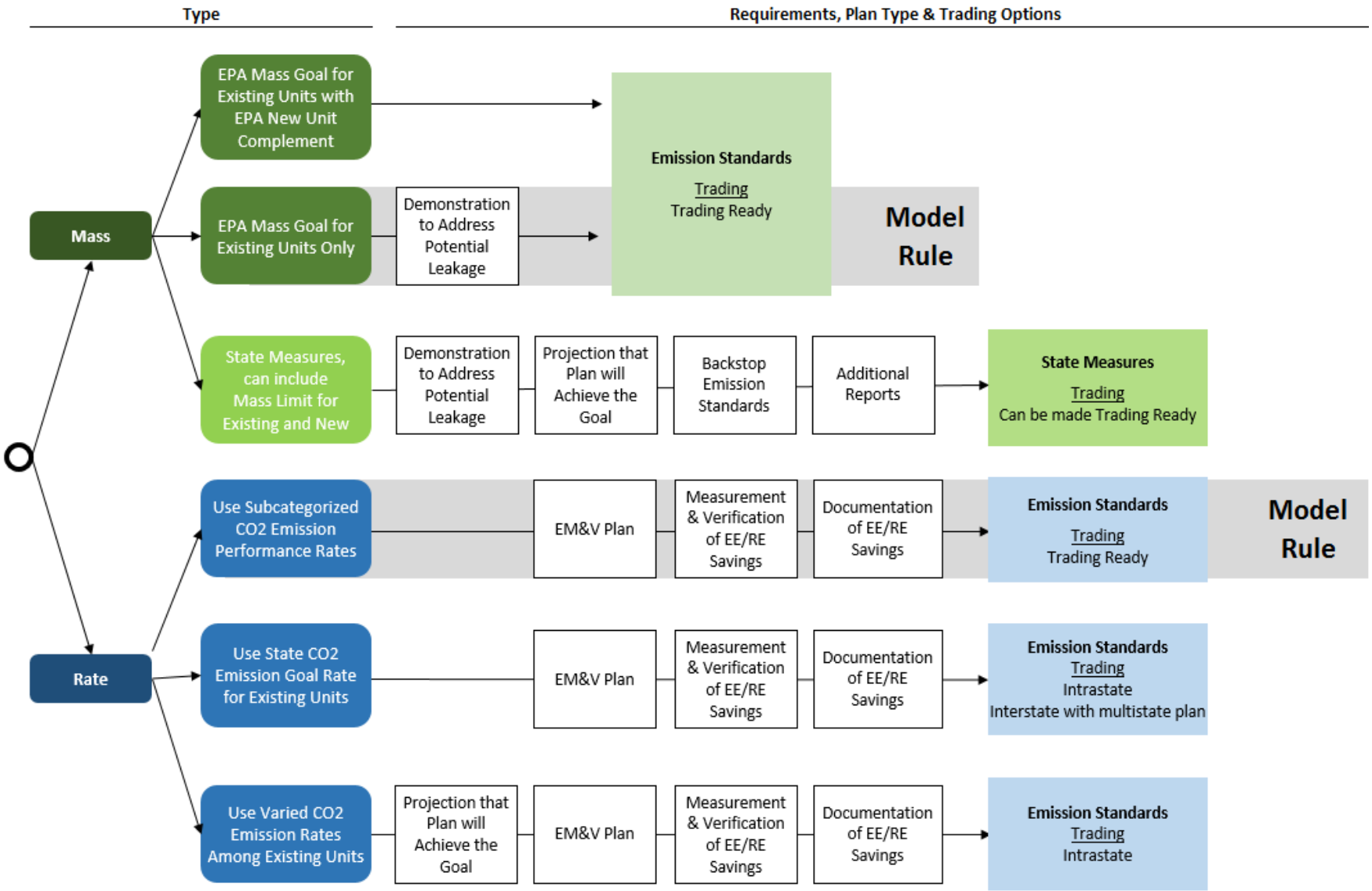
Demand-Side Energy Efficiency and EM&V in the Clean Power Plan

State Plan Types and Overall Approaches

- States pick a **mass-** or **rate-based goal approach**
- States submit a "State Plan" for affected EGUs to implement interim and final goals (or federal plan is implemented)
- Federal enforcement is on the EGUs
- Two State Plan types:
  - **Emission standards plan** – EGU source-specific requirements ensuring all affected EGUs meet their goals
  - **State measures plan** – mixture of measures implemented by the state, such as renewable energy standards and efficiency programs

Plan Type	Goal	EPA Model Trading Rule
Emissions Standard Plan	Rate or mass-based goal	Yes
State Measures Plan	Mass-based goal only	Can be made trading-ready but not covered by current versions of the Model Trading Rule

Summary: Several Pathways for States – *slide from U.S. EPA*



Energy Efficiency Supported in CPP

From EPA: *"Demand-side energy efficiency is an important, proven strategy that states are already widely using and that can substantially and cost-effectively lower CO_2 emissions from the power sector."*

CPP encourages states to select efficiency as a compliance path:

- Under a mass-based approach, energy efficiency automatically "counts" toward compliance and states can use an unlimited amount to help achieve their state goals
- Under a rate-based approach, CPP enables states to get credit for all eligible energy efficiency projects whose electricity savings are documented via EM&V
- The Clean Energy Incentive Program (CEIP) provides additional incentives for early investment in demand-side energy efficiency in low-income communities

Eligible Efficiency

- Demand-side energy efficiency may include a range of eligible measures that are zero-emitting and avoid, rather than simply shift, the use of electricity. Very wide range of programs, projects and measures, e.g.:
  - Measures in residential and commercial buildings, and industrial facilities and
  - Water efficiency programs at water and wastewater treatment facilities
  - Projects implemented by energy service companies
  - Appliance replacement and recycling programs and behavioral programs
  - Building energy codes and state appliance and equipment standards
  - Combined Heat and Power (cogeneration)
- Primary requirement is that the measures can be quantified and verified in accordance with the EM&V requirements in the CPP Emission Guidelines
- Should be grid-connected
- Savings from implemented projects from 2013 onward that are still achieving quantifiable and verifiable energy savings in 2022 may be applied during compliance period

Efficiency in Mass Plans

- Under a mass-based approach, efficiency automatically "counts" toward compliance
  - The impacts of energy efficiency measures implemented by states that choose the mass-based approach are automatically reflected in their reported EGU stack emissions

- Also:
  - Mass-based approach puts a price on carbon and therefore increases the relative cost of fossil sources relative to zero-carbon resources, which in turn incents efficiency and renewables **(but still have the market barriers discussed last week)**
  - Under a mass-based goal approach there is no limit on the use of efficiency, and efficiency activities do not need to be approved as part of a state plan

Efficiency in Mass Plans, continued

- Efficiency is implemented through what the efficiency industry calls "complementary programs" that could operate outside of the CPP requirements.
- These can include the full list of EE activities, such as utility customer-funded programs, building energy codes and energy efficiency resource standards
- States can provide further incentives for energy efficiency under mass-based approaches by auctioning CO_2 allowances and using portions of the resulting revenue to support efficiency programs.
  - This funding approach is used for a wide range of efficiency programs as part of the Regional Greenhouse Gas Initiative in the Northeast (www.rggi.org).
- One scenario in which efficiency could receive allowances under a mass-based state plan approach is through a *set aside* for efficiency program and projects

Efficiency in Mass Plans – EM&V for Different Plan Types

- Emissions Standards Plans - efficiency activities do not need to be described and no EM&V is required for compliance
- State Measures Plans - EE activities and EE EM&V do need to be included in a state plan, if they are part of the state's compliance strategy
- EM&V is needed for CEIP
- Thus:
  - EE EM&V is less of an issue with mass-based approach, because it is not fundamental to compliance calculations
  - Since EE is implemented with complementary programs, EM&V should still be done for all those reasons that EM&V is done in the first place

Clean Energy Incentive Program

- EPA is providing the Clean Energy Incentive Program (CEIP) to incentivize early investments that generate wind and solar power **or reduce end-use energy demand during 2020 and 2021**
- The CEIP is optional, "matching fund" program states may choose to incentivize early investments in wind or solar power, as well as **demand-side energy efficiency measures that are implemented in low-income communities**
- EPA will provide matching allowances or Emission Rate Credits (ERCs) to states that participate in the CEIP, up to an amount equal to the equivalent of 300 million short tons of CO_2 emissions. The match is larger for low-income EE projects, targeted at removing historic barriers to deployment of these measures
- **EM&V will be required for EE whether part of mass plan or rate plan**
- EPA CEIP website: http://www.epa.gov/cleanpowerplan/clean-energy-incentive-program

Efficiency in Rate Plans

- Quantified and verified MWh from eligible measures can be used to generate Emission Rate Credits (ERCs) and adjust the CO_2 emission rate of affected EGU(s), regardless of where the emission reductions occur
- Rate-based state plans may provide for the interstate transfer of efficiency ERCs, which would enable an ERC issued for efficiency savings by one state to be used for compliance by an affected EGU operating under a rate-based emissions standard in another state
- Rate based approaches are where there are significant CPP EM&V and tracking requirements for EE

Efficiency in Rate Plans, continued

EE can be used to generate (ERCs) that are used to help meet the rate target – in fact, if not calculated, EE could make an emissions rate higher (if the EE displaced zero- or low-carbon EGUs)

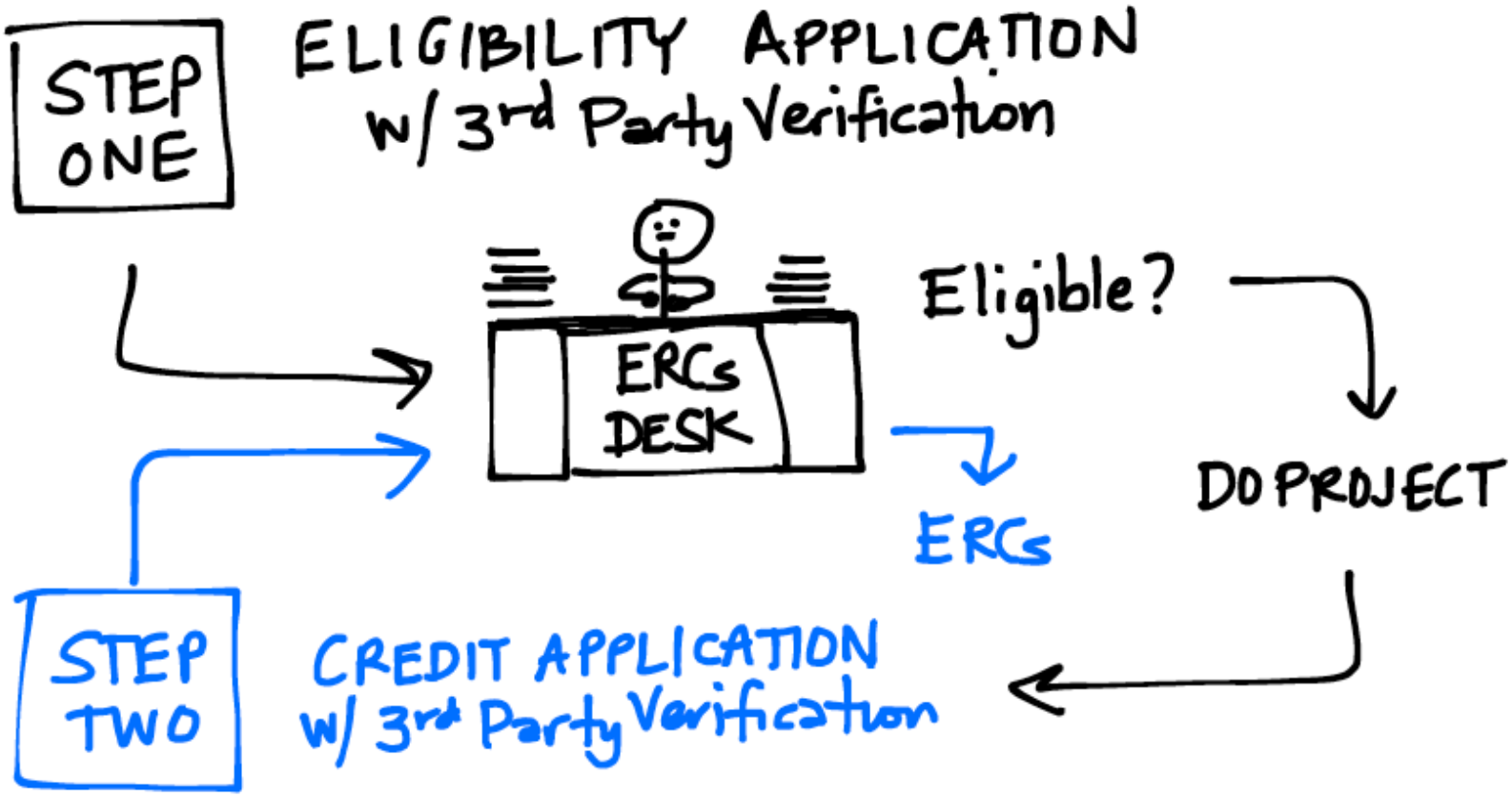
$$CO_2 emission\ rate = \frac{\sum M_{CO2}}{\sum MWh_{op} + \sum MWh_{ERC}}$$

Metric is Annual MWh

Example:

- Emission = 1,000,000 lbs/year
- Generation = 1,000 MWh/year
- Emission rate = 1,000 lbs/MWh
- Target = 800 lbs/MWh
- ERCs required = 250 MWh/yr ➡ CPP CO_2 Rate = 800 lbs/MWh

The ERC Process – slide from Franz Litz, Program Consultant, Great Plains Institute



! Liability for improperly issued ERCs lies with the affected EGU who uses them for compliance !

EE EM&V Requirements and Guidance in the Clean Power Plan

CPP EE EM&V In One Slide

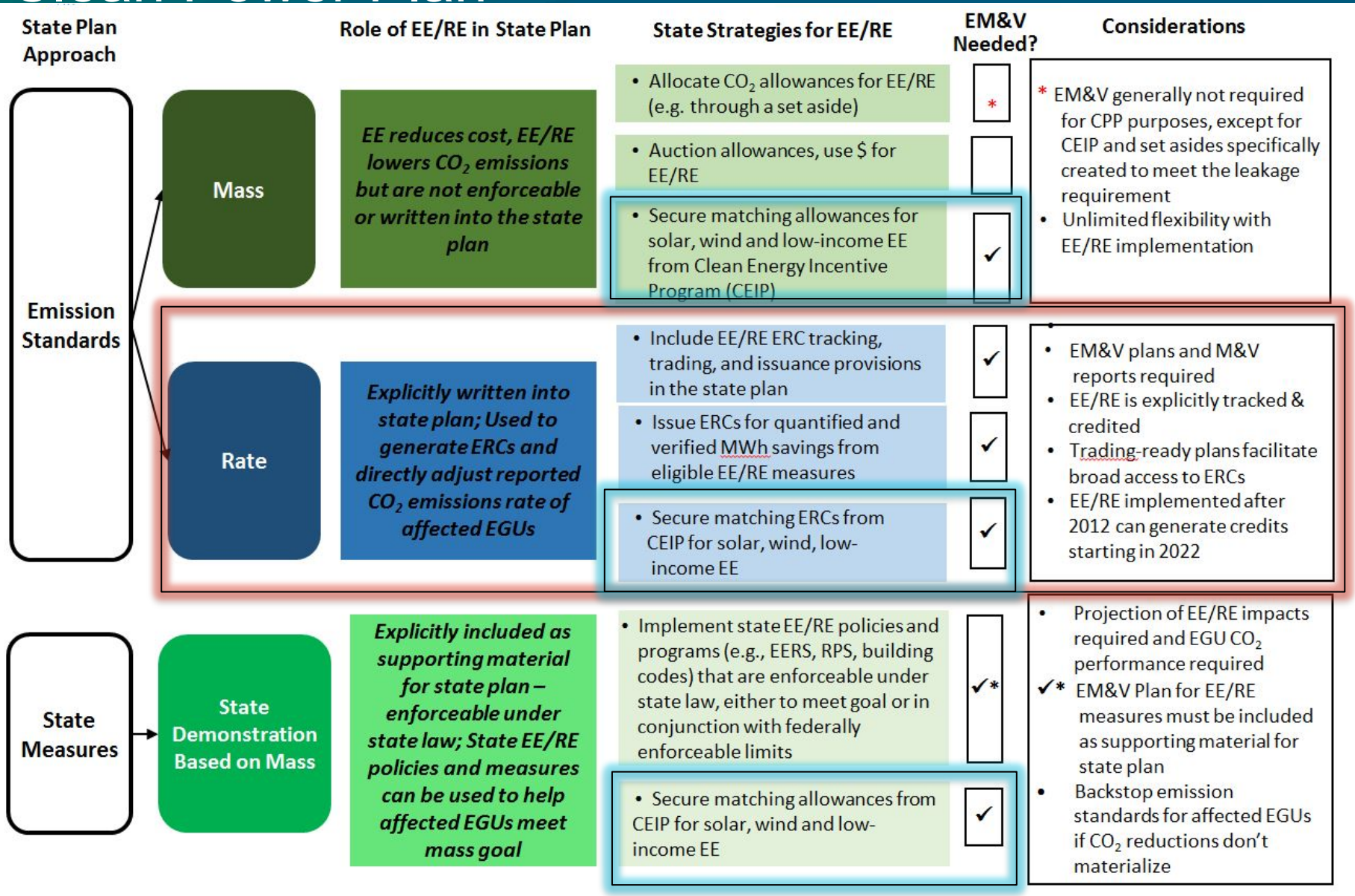
Do I need to do EM&V for CPP?

- Mass –
  - EGU Emission Standards Plan – Not really
  - State Measures Plan – Yes, but not fundamental to compliance calculations
- Rate –
  - EGU Emission Standards Plan - Yes, fundamental to compliance calculations
- CEIP –
  - Mass or rate plans - Yes

For the CPP, EM&V is primarily associated with successfully quantifying and verifying savings for generating emission rate credits (ERCs) and adjusting an emission rate

How EE/RE Fits in the Clean Power Plan

- slide from U.S. EPA



EM&V Requirements and Guidance

The CPP documents cover wide range of EM&V topics to support State's planning and implementation of EE EM&V

- EM&V Plans and Reports
- EM&V Methods
- Electricity savings metrics and baselines
- Reporting timeframes and considerations
- Deemed savings
- Independent factors
- Accuracy and reliability
- Avoiding double counting
- Persistence of savings
- Savings quantification/verification cycles
- T&D savings adders
- Interactive effects
- EE EM&V Protocols and Guidelines

- Tracking and compliance systems
- Independent verification and review
- Additional EM&V guidance for several common EE program and project types
  - Programs implemented using utility customer funds ("utility EE programs")
  - Individual or aggregated EE projects, such as those implemented by ESCOs or at industrial facilities
  - Building energy codes
  - Appliance energy standards
- Glossary of key terms
- Templates for program and project EM&V plans
- Examples for several common measure types

Efficiency EM&V Coverage in the CPP

	Type of EM&V Information	Summary
CPP Emissions Guidelines	Requirements	Must do for CPP compliance to quantify and verify savings
Proposed Model Trading Rule ***Proposed for Comment***	EM&V provisions that will be presumptively approvable if included in state regulations governing how EE is to be quantified by EE providers and verified by independent entities acting on behalf of the state.	Strongly recommended characteristics of EM&V for approvable State Plans. Any alternative EM&V approaches proposed by a state would have to "… demonstrate to the EPA's satisfaction that its alternative provisions are as stringent as the presumptively approvable approach…."
Proposed EM&V Guidance for Demand Side EE ***Proposed for Comment***	Applicable guidance	Further information and recommendations covered in this companion document

EM&V Requirements – Plans, Reports, Verification

Emissions Guidelines (EG) requirements are general and relatively limited

(see Federal Register version for complete version and descriptions)

- State plan would include EM&V plan for quantifying and verifying electricity savings using industry best-practice EM&V protocols and methods that yield accurate and reliable measurements of electricity savings; including explanations of the key assumptions and data sources used.
- EE provider submit periodic M&V reports to confirm and describe how each of the EM&V requirements was applied (i.e., the plan was followed). These reports must also specify the actual MWh savings or generation results, for the period covered, as quantified by applying EM&V methods on a retrospective (ex-post) basis.

  States may not allow MWh values that are quantified using ex-ante (pre-implementation) estimates of savings

- Independent verification – A verification report from an accredited independent verifier that verifies the eligibility of the eligible resource to be issued an ERC and that the EM&V plan meets the requirements of the EPA approved State plan

EM&V Requirements – EM&V Plans Coverage

- Baselines that represent what would have happened in the absence of the EE intervention, such as the equipment that would most likely have been installed—or that a typical consumer or building owner would have continued using—in a given circumstance at the time of EE implementation
- Effects of changes in independent factors affecting energy consumption and savings; that is, factors not directly related to the EE action, such as weather, occupancy, or production levels
- The length of time the EE action is anticipated to continue to remain in place and operable
- Skill certification is also discussed –
  - The EPA is therefore **recommending** in conjunction with the EM&V requirements …. that states are encouraged to include in their plans a description of how states will ensure that the skills of workers installing demand-side EE …. as well as the skills of workers who perform the EM&V of demand-side EE and RE performance will be certified by a third party entity

EM&V Requirements – Tracking

- "The tracking system used to administer a state's rate-based emission trading system must provide transparent, electronic, public access to information about program and project eligibility applications, including EM&V plans, and regulatory approval status."
- "Plans must indicate how ERCs will be tracked from issuance through use for compliance, through either a joint tracking system, interoperable tracking systems, or an EPA-administered tracking system."

Model Trading Rule
EM&V Presumptively Approvable

Remember --- this is proposed, not final, document

- "….with respect to EM&V, the EPA describes certain established industry best-practice methods, procedures, and approaches that would be presumptively approvable if included in state plans. States wishing to adopt the model rule must submit these methods, procedures, and approaches as specified, or may submit alternative EM&V that is functionally equivalent to the industry best-practices described as presumptively approvable."

- "The EPA recognizes that EM&V is routinely evolving to reflect changes in markets, technologies and data availability, and expects to update its EM&V guidance over time. Therefore the agency expects that alternative quantification approaches will emerge that can be approved for use, provided that such approaches are functionally equivalent to the provisions for EM&V outlined in this section."

Model Trading Rule
EM&V Plan Topics - Presumptively Approvable

§ 62.16260 What are the requirements for evaluation, measurement and verification plans for eligible resources?
Starts on page 65005 of Federal Register version, See Federal Register version for details and all criteria, Also further addressed in EM&V Guidelines

- Use of EE EM&V Protocols - quantified and verified based on methods and procedures detailed in an industry best-practice EM&V protocol or guideline
- Baseline – common practice baseline (CPB) description and factors that determine the CPB
- EM&V methods used to quantify savings - project- based M&V, deemed savings, and comparison group approaches such as randomized control trials (RCT) – provide criteria and reference use of industry best practices
- Time interval of EM&V - All EE must be quantified at time intervals (in years) sufficient to ensure that MWh savings are accurately and reliably quantified. Intervals must be specified and explained in the EM&V plan – time intervals provided in text

Model Trading Rule
EM&V Plan Topics - continued

- EM&V plans must specify and document how the following EM&V components will be analyzed, considered, or otherwise addressed in the quantification and verification of electricity savings:
  - Independent factors/variables
  - Duration of savings - effective useful life (EUL)
  - Sources of potential double counting
  - Verification of proper installation
  - Interactive effects
  - Avoided T&D losses (6% adder)
  - Double counting avoided
- EM&V plan must specify how the accuracy and reliability of the electricity savings is determined
- Sampling confidence and precision criteria
- All data sources and key assumptions used to quantify electricity savings must be described in the EM&V plan

Model Trading Rule
Other EM&V Related Topics

- § 62.16265 What are the requirements for monitoring and verification reports for eligible resources?
- § 62.16270 What are the requirements for [independent] verification reports?
- § 62.16275 What is the accreditation procedure for independent verifiers?
- § 62.16280 What are the procedures accredited independent verifiers must follow to avoid conflict of interest?

Independent verification is an important element of the CPP EM&V

EG Recommendations for EM&V "Workers"

- "Workers who perform the EM&V of ... EE performance will be certified by a third party entity that:
  - 1) Develops a competency based program aligned with a job task analysis and certification scheme;
  - 2) Engages with subject matter experts in the development of the job task analysis and certification schemes that represent appropriate qualifications, categories of the jobs, and levels of experience;
  - 3) Has clearly documented the process used to develop the job task analysis and certification schemes, covering such elements as the job description, knowledge, skills, and abilities;
  - 4) Has pursued third-party accreditation aligned with consensus-based standards, for example ISO/IEC 17024"
- The Model Trading Plans have information on:
  - Accreditation procedure for independent verifiers
  - Conflict of interest provisions
  - Process for the revocation of accreditation status for an independent verifier

EM&V Guidance – EM&V Guideline Document from EPA

Remember --- this is proposed, not final, document

- Establishes guidance to help states, affected EGUs, and EE providers (including the firms they hire) implement the requirements in the EPA's emission guidelines, as well as the presumptively approvable EM&V approaches for quantifying and verifying MWh savings
- Applies only in the context of rate-based state plans that explicitly credit MWh savings in the form of ERCs or other denominator rate adjustments

EM&V Guidance – Intended Audience

Intended for state officials, providers of demand-side EE, and private firms (e.g., evaluators and verifiers) hired to help execute the EPA's provisions for quantification and verification of EE savings

- For state air regulators, lay readers, and the public, the high-level descriptions of the 12 topics addressed in Section 2 may be helpful.
- Followed by a discussion of applicable guidance that EE providers, evaluators, and verifiers can use as they develop and implement EM&V plans.
- Can also be used by private organizations and firms, the public, and other parties interested in better understanding the EPA's EM&V requirements for purposes of participating in state plan development and similar processes.

EM&V Guidance – EM&V Guideline Content

- **Section 1** is introduction to EM&V and the Guidance
- **Section 2** provides a high-level discussion of 12 key EM&V topics and establishes guidance to help EE providers develop EM&V plans that document how the applicable regulatory requirements will be addressed
- **Section 3** establishes additional EM&V guidance—beyond the general guidance provided in Section 2—for several common EE program and project types. The specific program and project types addressed comprise:
  - Programs implemented using utility customer
  - Individual or aggregated EE projects, such as those implemented by ESCOs
  - Building energy codes
  - Appliance energy standards
- **Appendix A** provides a brief glossary of key terms
- **Appendix B** provides templates for program and project EM&V plans.
- **Appendix C** discusses considerations involved in selecting and implementing EM&V methods and illustrative examples of how PB-MV can be applied for several common EE measures

EM&V Guidance – 12 Key EM&V Topics

Discussion: high-level overview, background, applicability to the EPA's emissions guidelines

Applicable Guidance: Intended to help implement the requirements defined in the emission guidelines, These approaches and assumptions expand upon, illustrate, and provide practical clarification of the preamble and emission guidelines and are based on industry best practices.

- EM&V methods
- Electricity savings metrics and baselines
- Reporting timeframes and considerations
- Deemed savings
- Independent factors affecting energy consumption and savings
- Accuracy and reliability of quantified savings
- Avoiding double counting

- Effective useful life and persistence of savings
- Savings quantification and verification cycles
- Transmission and distribution (T&D) savings adders
- Interactive effects
- Use of EE EM&V Protocols and Guidelines

Tracking – quick notes

From Emission Guidelines:

Tracking system must:

- Record the issuance, transfer and surrender of ERCs for compliance or retirement
- Provide electronic public access
- Provide for transfers of ERCs to/from another ERC tracking system

From Model Trading Plan:

EM&V plans must describe how

"…double counting will be avoided through the use of tracking and accounting procedures to ensure that the same MWh of electricity savings is not claimed more than one time (for example, two EGUs claiming savings from the same lighting retrofit). The types of double counting that may arise are discussed in the EPA's draft EM&V guidance."

From EM&V Guidance:

Implement "systematic tracking and accounting procedures, including the use of well-structured and well-maintained tracking and reporting systems such as those already being used by many states and EE providers."

Using Your Current EM&V Practices? Selected Topics - and why you may want to comment

Selected Topics	What CPP Says
EM&V approaches	From EG: All electricity savings must be quantified and verified based on methods and procedures detailed in an industry best-practice EM&V protocol or guideline. "States may not allow MWh values that are quantified using ex-ante (pre-implementation) estimates of savings." *From Model Plans –presumptively approvable – ""all* electricity savings must be quantified by applying one or more of the following methods: PB-MV, comparison group approaches, or deemed savings."
Baselines	From EG: "*Common practice baseline or CPB* means a baseline derived based on a default technology or condition that would have been in place at the time of implementation of an EE measure in the absence of the EE measure (for example, the standard or market-average or pre-existing equipment that a typical consumer/building owner would have continued to use or would have installed at the time of project implementation in a given circumstance, such as a given building type, EE program type or delivery mechanism, and geographic region). *From Model Plans – CPB is presumptively approvable*
Independent verification	From EG: "… results are verified by an accredited independent verifier, and its verification assessment must be included as part of the M&V report submitted to the state regulatory body." Further guidance provided in Model Trading Rule
Persistence of savings	From Model Trading Rule: "All EE programs, EE projects, or EE measures must be quantified at time intervals (in years) sufficient to ensure that MWh savings are accurately and reliably quantified." • C&S: every four years • Utility and public funded programs: every 1, 2 or 3 years • Commercial and industrial projects: every year (unless can justify…)

EM&V Topics on Which EPA is Soliciting Comment on

Comments on the proposed Federal Plan and Model Rules for the Clean Power Plan and draft EM&V Guidance must be received by **January 21, 2016**.
Reference Docket ID: **EPA-HQ-OAR-2015-0199**
http://www.epa.gov/cleanpowerplan/how-comment-proposed-federal-plan-clean-power-plan

EPA Soliciting Comments on EM&V: Federal Plan

The EPA is soliciting comment on the incorporation of EE for the federal plan and by extension the EM&V associated with it

See Federal Register/Vol. 80, No. 205/Friday, October 23, 2015/Proposed Rules 65005

EPA Soliciting Comments on EM&V: Model Trading Rules

EM&V provisions that will be presumptively approvable if included in state regulations governing how EE is to be quantified by EE providers and verified by independent entities acting on behalf of the state

- Substantive content and level of detail
- What EE criteria should be described in guidance document versus final model rule
- EE EM&V criteria for quantifying the electricity savings from every type of EE program, project, or measure
- What constitute EE best-practice protocols and procedures for every type of EE program, project, or measure
- How common practice baselines, or alternative baseline(s), should and should not be used in calculating electricity savings
- Appropriateness of project-based measurement and verification), comparison group approaches, or deemed savings and under what circumstances to use each approach, cost-effectively
- Minimum and maximum intervals (in years) over which electricity savings must be quantified and verified
- How to ensure that an ERC issued for an EE program, project, or measure in one state reflects the same MWh of energy or electricity saved in another state (e.g., avoiding forum shopping)
- How to appropriately consider [independent variable] factors that affect energy savings in the quantification and verification process
- Appropriate steps for avoiding double counting
- Ensuring accuracy and reliability of electricity savings estimates, including the necessary rigor of the methods selected , and sample size criteria (90/10 confidence and precision)
- Including transmission and distribution system losses in savings calculation
- Any additional criteria that we should include in the final model rule regarding EE EM&V

Questions can be found in Federal Register/Vol. 80, No. 205/Friday, October 23, 2015/Proposed Rules **65007-8**

EPA Soliciting Comments on EM&V: EM&V Guidance for EE

Contents of this document include background information, baseline definitions and applicable EM&V methods, the appropriate use of industry-standard protocols and guidelines, and other topics for successfully quantifying and verifying savings for purposes of generating emission rate credits (ERCs) and adjusting an emission rate.

- Does the guidance provide enough information to help EE providers determine what EM&V methods to use for purposes of quantifying savings from specific EE programs, projects, and measures?
- Does the guidance include sufficient information about the appropriate circumstances and safeguards for the use of deemed savings values? For project-based measurement and verification and comparison group methods?
- Should the guidance specifically encourage greater use of comparison group approaches?
- Would additional guidance be useful on "top-down" econometric EM&V methods
- Is the guidance on particular EE program types (consumer-funded EE programs, project-based EE, building energy codes, and appliance standards) helpful, clearly presented, and sufficient/complete?
- Is the guidance on important technical topics (e.g., common practice baselines, accuracy and reliability, verification) helpful, clearly presented, and sufficient/complete? Can this guidance be reasonably implemented?
- Can this guidance be reasonably implemented?
- Does the guidance *not* cover any important EM&V topics relevant to fulfilling the EM&V related requirements of the emission guidelines? Is additional guidance needed to support the implementation of other eligible zero- and low-emitting measures that are directly metered? What topics, if any, are unnecessarily included?
- How can the guidance most effectively anticipate the expected changes and evolution in quantification and verification approaches over time (given the time horizon for the emission guidelines)?

Questions can be found on pages v and vi of Evaluation Measurement and Verification (EM&V) Guidance for Demand-Side Energy Efficiency (EE), U.S. Environmental Protection Agency, DRAFT FOR PUBLIC INPUT August 3, 2015

Closing Thoughts on Possible Western State Coordination of EM&V

General Opportunities for Interstate Coordination

Regardless of whether Western states coordinate on meeting CPP targets, they still can coordinate efficiency EM&V efforts in order to:

- Facilitate and improve the quality of EM&V for CPP compliance and other purposes, while possibly reducing costs for the development and implementation of efficiency EM&V strategies and products
- Facilitate interstate (and intrastate) tracking of energy efficiency projects and their electricity savings using consistent EM&V procedures—primarily, but not exclusively, for trading energy efficiency ERCs
- Reduce EM&V transaction costs, thus reducing the cost of efficiency implementation and encourage more efficiency activity

Ideas for Multi-State EM&V Strategies and Products

Strategies:

- Information clearinghouse/ exchange
- EM&V product development
- Regional demand-side efficiency ERCs tracking system platform

Products:

- Standard reporting formats for energy savings
- Regional database of deemed (stipulated) energy savings and effective useful life
- Regional glossary of definitions and concepts
- Regional, standardized energy efficiency EM&V plans
- Regional EM&V professional standards or accreditation processes and entities

Discussion/Questions

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