



## **Energy Efficiency Evaluation Tool: EPA Guidance and Rules on EE Programs for SIPs and the Clean Power Plan**

The Clean Power Plan establishes interim and 2030 carbon dioxide (CO<sub>2</sub>) targets for coal and natural gas power plants (electric generating units, or EGUs). States will submit plans that require EGUs to achieve equivalent standards, based on an allowable rate (pounds of CO<sub>2</sub> per megawatt hour of electricity) or a mass budget (total tons of CO<sub>2</sub> emitted).

End-use energy efficiency (EE) programs could play a significant role in Clean Power Plan compliance. EE programs could contribute “behind the scenes,” reducing CO<sub>2</sub> emissions from EGUs without any formal role in a state plan. Or state plans could include EE programs, by:

1. Allowing EE providers to generate Emission Rate Credits (ERCs) in a rate-based plan;
2. Describing EE state measures to meet some of a mass-based standard; or
3. Allocating allowances to EE programs in a mass-based plan.

The Energy Efficiency Evaluation Tool is intended to help states and others evaluate whether an EE program might be eligible to generate ERCs, serve as a state measure, or receive set-aside allowances that are intended to reduce the need for new generation.

For thirty years, EPA and States have refined approaches for valuing and crediting emission reductions that help regulated sources meet Clean Air Act requirements. This includes valuing emission reductions from renewable energy projects and EE. EPA has consistently required Clean Air Act-compliant emission reductions to be quantifiable, enforceable, permanent, and surplus. States have written these factors into law and use them to qualify emission reductions for their air programs. Similarly, the Clean Power Plan requires state measures to be quantifiable, verifiable (often a component of quantification), enforceable, permanent, and non-duplicative. These concepts reappear in the regulatory language proposing project eligibility for set-aside allowances and ERCs in the Model Trading Rules.

Given their long history and explicit mention in the Clean Power Plan, we used these factors to organize the Evaluation Tool.

These factors provide a useful starting point for designing EE state measures or establishing allowance and ERC eligibility requirements. The Evaluation Tool summarizes past EPA guidance (left column), EE programs that EPA has approved in other state plans (middle column), and relevant Clean Power Plan excerpts (right column). We will update the Evaluation Tool once the Federal Plan and Model Trading Rules are finalized.

(YEAR) = Source document. See References section.

*Italicized provisions* = proposed in the Federal Plan and Model Trading Rules.

# Energy Efficiency Evaluation Tool

## *Quantifiable*

### Can a State bundle small/short-term/emerging EE programs?

| <u>Past EPA Guidance</u>                                                                                                                                                                                                                                                                                                                                                          | <u>Approved State Programs</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <u>Clean Power Plan</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| <p>(2005) State can “bundle” small programs, quantifying them individually for projection purposes, but monitor and validate ERs in the aggregate to demonstrate compliance.</p> <p>(2005) EPA would cap bundled measures at 9% of a State’s SIP obligation.</p> <p>(2005) A discount factor (presumed at 20%) may apply for bundles with “emerging measures” (see page 7-8).</p> | <p>EPA approved a Washington, DC Metro Region (WDC) plan that bundled several small voluntary measures, including installation of more efficient LED traffic lights. The plan noted that “[t]he bundled measures policy takes into account the fact that some measures may perform less effectively than projected by allowing the State to average those measures with others that perform better than expected.”</p> <p>EPA approved a Connecticut SIP that bundled EE measures (commercial, industrial, and residential lighting and cooling) to reduce peak load on High Electricity Demand Days.</p> | <p><u>Projecting statewide emissions in a plan</u><sup>1</sup>: State Plan Demonstrations TSD, 8: A state can project emission reductions due to RE and EE at the individual project or program level, or aggregate RE and EE impacts across a portfolio.</p> <p><u>Quantifying EE to demonstrate compliance</u>: Projects must be measured individually to demonstrate compliance, receive set-aside allowances, or generate ERCs. <u>For example</u>: 40 C.F.R. § 60.5800(a)(4)(vi); <i>Rate-Based Model Rule (MR)</i>, § 62.16435 (a)(4)(vi) (proposed): EE can generate ERCs if it “saves electricity and is calculated on the basis of quantified ex post savings, not ‘projected’ or ‘claimed’ savings.”</p> |

### How does the program calculate energy savings?

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|  | <p>EPA approved a Texas (TX) plan to quantify energy savings from new building codes by:</p> <ol style="list-style-type: none"> <li>1) Calculating electricity savings and peak demand reductions from housing units built to the updated code, as compared to 1999 performance, using DOE-2 and weather data.</li> <li>2) Cross-checking calculated energy use with a. DOE’s Residential Energy Characteristics Survey; and b. utility bill analysis (PRISM).</li> <li>3) Validating construction data with site visits.</li> </ol> <p>EPA approved a Louisiana (LA) SIP relying on ERs from an Energy Service Company (ESCO) contract between Shreveport and</p> | <p>§ 60.5830(c)(2): To receive set-aside allowances or generate ERCs, energy savings must be quantified and verified “on a retrospective (ex post) basis using industry best-practice EM&amp;V protocols and methods that yield accurate and reliable measurements.”</p> <p><i>Mass-Based MR</i>, § 62.16260(c)(7)(ii); <i>Rate-Based MR</i>, § 62.16455(c)(7)(i): EPA proposes that “best practice EM&amp;V protocols” (A) have undergone a rigorous and credible peer review process that validate applicable methods through empirical testing; and (B) have been accepted and approved for use by state utility commissions.</p> |
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| <u>Past EPA Guidance</u> | <u>Approved State Programs</u>                                                                                                                                                                                                                                                                                                                                       | <u>Clean Power Plan</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                          | <p>Johnson Controls. Johnson Controls guaranteed an amount of energy savings; the State relied on that guarantee.</p> <p>The WDC plan relied on EPA Energy Star protocols to calculate energy savings from more efficient traffic lighting.</p> <p>The CT plan appears to rely on past performance (data from two prior years) to predict future energy savings.</p> | <p><i>Mass-Based MR, § 62.16260(c)(7)(iv); Rate-Based MR, § 62.16455(c)(7)(iv):</i> EPA proposes that savings must be quantified using (1) project-based (PB), (2) comparison group, or (3) deemed savings methods. The proposal sets conditions and limits on the use of deemed savings.</p> <p><i>Mass-Based MR, § 62.16260(c)(7)(v); Rate-Based MR, § 62.16455(c)(7)(v):</i> EPA proposes that savings must be quantified over periods no longer than a project’s useful life, and as a default at least every: 4 years for building codes and product standards; 1-3 years for PUC programs; and 1 year for commercial/industrial projects.</p> <p><i>Mass-Based MR, § 62.16260(c)(6); Rate-Based MR, § 62.16455(c)(6):</i> EPA proposes that projects must calculate associated transmission or distribution line losses based on the lesser of 6% of project savings, or EIA’s statewide annual average transmission and distribution loss rate.</p> |

**How does the program convert energy savings to emission reductions (ERs)?**

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| <p>(2001) ERs are quantifiable if you can reliably replicate measures to determine them.</p> <p>(2001) Continuous emission monitoring systems are preferred.</p> <p>(2012I) Acceptable ER quantification methods include: 1) eGRID non-baseload average emission rates or 2) emission rates weighted by capacity factors (“basic” approaches); 3) historical hourly generation and emission rates of dispatched plants (“intermediate”) and 4) modeling (“sophisticated”). In the SIP context, EPA would approve control measures using the second or third approaches if future generation mix and import/export data were also considered, or the fourth approach.</p> | <p>The TX plan distributed the energy savings among ERCOT power control areas and then among the non-baseload EGUs in each control area, based on eGRID capacity factors. TX then multiplied the energy savings attributed to each EGU by the unit’s emission rate, and summed tons avoided. (This is similar but more robust than the Roadmap’s second “basic” approach.) EPA specifically found that TX methodology reasonable.</p> <p>The LA plan relied on a NREL study describing three quantification methods using eGRID data: 1) a simple “plant average approach” that assumes all generation reductions are shared equally among plants in a region; 2) a “power control area approach”</p> | <p><b>NOTE: EPA has eliminated the need for calculating ERs from EE.</b></p> <p>§ 60.5790(c)(1): Rate-based plans do not require conversion of EE energy savings to ERs. Standards are met using ERCs to deduct MWh of energy from an EGU’s actual rate to set an “effective” emission rate.</p> <p><i>Mass-Based MR, § 62.16235(c), § 62.16245(a)(5):</i> In a mass-based federal plan, EPA proposes to distribute 5% of a state’s allowances “to each [RE] project prorated according to its percentage of the total approved projected MWhs for that state.” EE set-aside schemes tracking this system would base allocation on energy savings, not ERs.</p> |
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| <u>Past EPA Guidance</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <u>Approved State Programs</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <u>Clean Power Plan</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| <p>(2004a) Beyond core methodologies, additional ones may be approved on a case-by-case basis.</p> <p>(2004a) EPA suggests reliance on models such as IPM and PROSYM to determine which EGUs are impacted.</p> <p>(2004a) “[T]here can be considerable uncertainty as to where the reduced demand from EE . . . will actually show up as reduced electrical generation and reduced EGU emissions.” The issue is “how to best apply assumptions and tools to reduce the uncertainty to a manageable factor.”</p> <p>(2012) A primary challenge of incorporating EE into SIPs is how to quantify ERs from EE projects, “especially in cases where air agencies need to determine where and to what extent the . . . initiative is affecting a particular . . . area.”</p> | <p>similar to the TX approach described above; and 3) an economic dispatch model, comparing business as usual dispatch to dispatch after applying the expected energy savings. (The difference provides plant-specific generation displacement information, which is multiplied by plant emission factors to calculate the ERs.)</p> <p>NREL determined the simplest approach was “accurate enough to be used for very small projects like this one.”</p> <p>The WDC and CT approaches accounted for the time of the energy savings. Following EPA’s intermediate method, WDC and CT identified the displaced EGUs based on historical hourly generation and used their emission factors to calculate the ERs.</p> <p>The CT plan had to extrapolate emissions data for smaller EGUs used on High Electricity Demand Days, if they did not report continuous emissions data or generate production data.</p> | <p>State Plan TSD, 22-30: If a state plan requires calculating ERs, EPA suggests multiplying energy savings by “the average or marginal emission rate in the power pool, region, or State”. (This method tracks the most basic Roadmap approach and is similar to the Louisiana approach used.) Marginal rates may require modeling or CAMD or AVERT historical data. The emission rate could also be the state’s 2030 “target rate.”</p> <p>For the Clean Energy Incentive Program (CEIP), EPA sought comment on converting allowances into ERCs, to determine the amount of ERCs it will make available and the number of allowances it will award to RE and EE projects.</p> <p>Preamble, 64,883: EPA acknowledges states want more quantification guidance; the agency’s promises to provide this in its online <a href="#">Toolbox</a>.</p> |

## ***Verifiable***

### **How does the program verify results (i.e., monitoring, calculations)?**

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| <p>(2001) State plans must include procedures to measure the results of their program; States must track those results through monitoring, record keeping, and reporting procedures.</p> <p>(2004a) A State must “make an enforceable . . . commitment to monitor, assess, and report on the ERs resulting from the measure and to remedy any shortfalls . . . in a timely manner.”</p> <p>(2001) (2004b) The SIP submission must contain evidence that the State “has sufficient</p> | <p>Under the TX program, Texas A&amp;M Energy Systems Lab and the PUC quantify the energy savings, peak loads, and ERs achieved in each county from the building code updates.</p> <p>In the WDC SIP, local governments commit to conduct a “true-up” analysis at least once every 3 calendar years.</p> | <p>§ 60.5737(a)(4); 60.5775(a), (c); 60. 5780(a)(2): State measures and projects that receive ERCs or set-aside allowances must be verified, i.e., there are “adequate monitoring, recordkeeping and reporting requirements . . . to enable the State and [EPA] to independently evaluate . . . compliance.”</p> <p><u>Before: ERC/Set-Aside Eligibility</u></p> <p>§ 60.5805(a), (c); 60.5815(c): EE providers must submit a verified EM&amp;V plan for approval.</p> |
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| <u>Past EPA Guidance</u>                                                                                                                                                                                  | <u>Approved State Programs</u>                                                                                                                                                                                                                                                                                              | <u>Clean Power Plan</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <p>funding and resources to collect data” (2004b), “review the monitoring data to determine compliance” (2001), “and perform a program evaluation to determine the actual ERs realized by a measure.”</p> |                                                                                                                                                                                                                                                                                                                             | <p><i>Rate-Based MR, § 62.16445(a)(2)(ii), (iii), (iv):</i> EPA proposes EE eligibility requirements.</p> <p><u>After: Receiving ERCs/Set-Asides</u><br/> § 60.5805(c); 60.5815(c); Preamble 64,906-07: EE providers must document energy savings in an EM&amp;V report approved by a verifier.</p> <p><i>Mass-Based MR, § 62.16265, 62.16270; Rate-Based MR, § 62.16460:</i> EPA proposes requirements for verification reports.</p> <p>§ 60.5870(b)(4), Preamble 64,908: States must review ERC programs to ensure energy savings are quantified, verified, and reported properly, and file reviews with step and final reports.</p> <p><i>Mass-Based MR, § 62.16245(a)(3)(ii)(C, G); § 62.16260(d); § 62.16265(c); § 62.16270(a)(2); Rate-Based MR, § 62.16445(a)(8)(i), § 62.16460(c)(1); § 62.16465(a)(2).</i> EPA proposes certifications for EE providers and verifiers.</p> |
| <p><b>Who verifies program results?</b></p>                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                                                                                                                                                                                           | <p>By statute, TX directs Texas A&amp;M Energy Systems Lab to prepare an annual report.</p> <p>Counties in Maryland and Virginia, Maryland DOT, the Maryland National Capital Parks and Planning Commission, the Virginia DEQ, and the Washington Suburban Sanitary Comm’n monitor and validate results in the WDC SIP.</p> | <p>§ 60.5805(a)(3); 60.5810: Independent verifiers confirm EE providers are eligible to receive ERCs or set-aside allowances, and confirm energy savings by EE programs and projects.</p> <p>§ 60.5805(i): Verifiers have basic qualifications.</p> <p><i>Mass-Based MR, § 62.16275:</i> EPA proposes an accreditation procedure for independent verifiers.</p> <p>Preamble, 64,910: EPA recommends state plans describe training for EE installers, and require certification for EM&amp;V providers/verifiers by DOL, DOE or another public accrediting body.</p> <p>§ 60.5805(h); <i>Mass-Based MR, § 62.16285; Rate-Based MR, § 62.16480 (proposed):</i> Plans must include a process to revoke verifier status.</p>                                                                                                                                                            |

| <u>Past EPA Guidance</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <u>Approved State Programs</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <u>Clean Power Plan</u>                                                                                                                                                                                                                                                                                                                                                                                 |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | § 60.5805(e); 60.5810: The state or its designee must review EM&V plans before allocating ERCs or set-aside allowances for EE.                                                                                                                                                                                                                                                                          |
| <b>How often are progress and program results reported?</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                         |
| <p>(2001) States must commit to conduct a public program evaluation every 3 years.</p> <p>(2004b) State must commit to evaluating emerging measures within the first 18 months, and then on the same cycle as other measures.</p> <p>(2007) EPA suggests that Mid-Course Reviews (MCR) or other periodic tracking “may be desirable” to ensure progress and compliance.</p>                                                                                                                                                                                                                                                                                                                                             | <p>The LA plan subjected the ESCO projects and other measures to a semi-annual reporting requirement, to confirm progress and compliance.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <p>§ 60.5870(b): States shall submit a report on each interim step and each 2-year final period by July 1 of the following year.</p> <p>§ 60.5870(c): If a plan includes state measures, a state must also file reports documenting milestone progress every year of the interim period and every two years in the final periods.</p>                                                                   |
| <b><i>Enforceable</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Who is responsible for the ERs or other program outcomes?</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                         |
| <p>(2001) Sources are generally liable in a market-based program, but EPA may also hold other parties liable, including the ER generator and third parties who verify, quantify, or certify ERs, “to discourage any possible collusion between sources, generators, and third parties.”</p> <p>(2004a) Measures that reduce emissions from electricity generation may be (1) enforceable against the EGU, (2) enforceable against another party responsible for EE, or (3) a “voluntary” measure committed to by the State. If (1) or (2), the measure must state who is liable.</p> <p>(2004b) Voluntary measures are not enforceable against EGUs; instead, the State assumes CAA responsibility for the program.</p> | <p>EPA found the TX plan was enforceable. A statute mandated State-wide adoption of the updated codes by local governments, and authorized these jurisdictions to inspect new buildings and enforce the codes. (For instance, Ft. Worth code says “inspections shall be made to determine compliance with this code.” The Building Official can stop work, end occupancy, or assess penalties for non-compliant construction.)</p> <p>Eleven counties in Maryland and Virginia, the Maryland DOT, the Maryland National Capital Parks and Planning Commission, the Virginia Department of Environmental Quality, and the Washington Suburban Sanitary Comm’n commit to deliver the expected reductions from a bundle of voluntary measures.</p> | <p>§ 60.5770(a); 60.5775(a): All federally enforceable obligations are on the affected EGUs. In plans relying in part or entirely on state measures, the state may place state-based legal obligations on non-emitters 60.5780(a).</p> <p>EPA requires those state measures to be enforceable; therefore, state law will need to identify entities responsible for EE activities or energy savings.</p> |

| Past EPA Guidance                                                                                                                                                                                                                                                                                                                                                                                                                                                | Approved State Programs                                                                                                                                          | Clean Power Plan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| <b>Does the State have authority to assess penalties or seek relief if program terms are violated?</b>                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p>(2001) States must be able to apply penalties and secure appropriate corrective actions. There must also be penalty provisions for violation of record keeping and similar obligations. Penalties must be at least \$10,000 per day, per violation.</p> <p>(2004a) (2004b) If measures are enforceable against the EGU or another party responsible for EE, the State must demonstrate that it can assess penalties or seek relief against these parties.</p> | <p>Under the TX program, the State delegated enforcement authority to municipalities and counties. (See Fort Worth code referenced in the previous section.)</p> | <p>§ 60.5775(f)(5): Each plan must show that the state and third parties can enforce against affected EGUs for violations of an emission standard.</p> <p>§ 60.5745(a)(6): Each plan with state measures must demonstrate the state has legal authority to implement and enforce the measures.</p> <p><i>Mass-Based MR, § 62.16230; Rate-Based MR, § 62.16430:</i> EPA proposes using the Part 78 administrative process before revoking ERC eligibility or adjusting ERC or set-aside awards in a federal plan.<sup>ii</sup></p> <p><i>Mass-Based MR, § 62.16255; Rate-Based MR, § 62.16450; Rate-Based MR, § 62.16550:</i> EPA proposes mechanisms for error adjustments in ERC and set-aside allowance awards, and for suspending ERC and set-aside allowance eligibility pending investigations into error or misrepresentations about performance.</p> |
| <b>Does EPA have authority to assess penalties or seek relief if program terms are violated?</b>                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p>(2004a) (2004b) Once measures are included in a CAA plan that has been approved by EPA, EPA can assess penalties or seek relief, too.</p>                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                  | <p>Preamble, 64,843-45 n. 820: State measures “are not codified as part of the federally enforceable approved state plan” and so these measures will be enforceable by the state only.</p> <p><i>Mass-Based MR, § 62.16230; Rate-Based MR, § 62.16430:</i> EPA proposes using the Part 78 administrative process before revoking ERC eligibility or adjusting ERC or set-aside awards in a federal plan.</p> <p>42 U.S.C. § 7413(c): EPA may prosecute an EE provider that commits fraud by knowingly submitting false information in an eligibility application, EM&amp;V report, or other document.</p>                                                                                                                                                                                                                                                   |

| Past EPA Guidance                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Approved State Programs                                                                                                                                                                                                                                                                                                                                                                                                                                              | Clean Power Plan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| <b>Does the State commit to make up ER shortfalls, and if so, how?</b>                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <p>(2001) States must develop program evaluation procedures and reconciliation procedures in the event a program falls short. The public should be involved in this process.</p> <p>(2004a) (2004b) (2005) The State must make an enforceable commitment to monitor, assess, and report on the ERs resulting from the measure, and to make up shortfalls in a timely manner.</p> <p>(2005) States can commit to make up shortfalls from a bundle of projects.</p> | <p>The TX statute directed the Natural Resources Conservation Commission to develop protocols and prepare progress reports, and authorized the Commission to take steps to keep TX compliant with the Clean Air Act.</p> <p>In the WDC SIP, counties and agencies in DC, Maryland, and Virginia commit to remedy the deficiency within one year (within two years if rulemaking is required) if a true-up shows that emissions benefits are lower than expected.</p> | <p><b>NOTE: This section could be relevant to EE state measures, or EE corrective measures.</b></p> <p>§ 60.5740(a)(2)(ii): If states apply “custom” rates, a plan must include a “corrective measures” mechanism to be used if standards are not met.</p> <p>§ 60.5870(d), (e): States must notify EPA if custom standards or state measures are not meeting expected outcomes.</p> <ul style="list-style-type: none"> <li>• § 60.5785(c) If corrective measures are triggered, states must identify the measures within 24 months of notifying EPA of a problem. They must be implemented within 6 months of EPA approval, and make up the shortfall “as expeditiously as practicable.”</li> <li>• § 60.5740(a)(3): If a state EE measure is not implemented or is not meeting its projected savings, and this causes the state plan to miss a programmatic milestone or interim or final goal, or exceed an interim step goal by 10 %, federally enforceable backstop standards are applied to the affected EGUs.</li> </ul> <p>§ 60.5785(d): States must revise plans to include backstop standards if they are not already named in the plan, and impose the backstop within 18 months of notifying EPA of a problem.</p> |
| <b>Can private citizens enforce provisions of an EE program against non-EGUs? Is this required?</b>                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <p>(2001) The public must have access to emission information, the ability to comment on State programs, and opportunity for judicial review.</p> <p>(2004a) (2004b) If measures are enforceable against the EGU or another party responsible for EE, private citizens must be able to enforce measure provisions.</p>                                                                                                                                            | <p>The TX program did not specifically authorize citizen suit provisions, but inclusion in the Dallas-Fort Worth SIP made the program directly enforceable by citizens under the CAA.</p>                                                                                                                                                                                                                                                                            | <p><b>NOTE: The rule does <u>not</u> authorize citizen suits against non-EGUs under federal law.</b></p> <p>Preamble, 64,841-43: EPA explains that because third parties can ultimately enforce the entire standard against affected EGUs, they do not need to have legal recourse against other entities acting under state law, including EE providers.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| <u>Past EPA Guidance</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <u>Approved State Programs</u>                                                                                                                                                                                                      | <u>Clean Power Plan</u>                                                                                                                                                                                                                                                                                             |
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| (2004b) Citizen suits are not warranted for “voluntary” programs where State has assumed liability.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                     | § 60.5775(f)(5), Preamble, 64,842-43, 64,850: State measures are not federally enforceable; states may decide whether to enable citizens to enforce state programs. Each plan must demonstrate that states and other third parties can enforce against <i>affected EGUs</i> for violations of an emission standard. |
| <b>Is the program “practicably enforceable,” and what does that mean?</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                     |
| <p>(2004a) If measures are enforceable against the EGU or another party responsible for EE, the program must be practicably enforceable.</p> <p>(1995) A program is “practicably enforceable” if it specifies (1) a technically accurate limit (or requirement), (2) a time period for compliance, (3) a method to determine compliance, (4) who is covered by the rule, and (5) consequences for non-compliance.</p> <p>(1987) A requirement is enforceable if it is clear (1) who must comply and by what date; (2) what effect changed conditions will have; (3) what the compliance period is; and (4) what exemptions exist. Also, (5) “alternative equivalent techniques” or variations on compliance must be defined.</p> | The TX plan and the statute mandating Statewide adoption of building codes delegated authority to design inspection and enforcement programs to municipalities and counties. (See Fort Worth code referenced in previous sections.) | <p>§ 60.5775(f), § 60.5780(a)(5): An emission standard or state measure must be “enforceable as a practical matter”.</p> <p>Preamble, 64,850, n. 827-28: EPA refers states to prior guidance (in left-hand column) for detail on “practical enforceability.”</p>                                                    |
| <b><i>Surplus</i></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                     |
| <b>Is the program mandated by or already used to comply with Federal law?</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                     |
| (2001) ERs may not be relied on for compliance with other air-quality related programs or achieved under the terms of a consent decree.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | EPA’s approval of the TX and LA plans noted that the ERs were surplus because they had not been relied on in another State SIP.                                                                                                     | § 60.5775(d), .5780(a)(3): The Clean Power Plan does not require standards to be surplus. Instead, standards must be “non-duplicative,” or not already counted in another state plan.                                                                                                                               |

| <u>Past EPA Guidance</u>                                                                                                                                                                                                                                                                                                                                                                                                                                 | <u>Approved State Programs</u> | <u>Clean Power Plan</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>(2004a, 2004b) Measures cannot have been otherwise relied on to meet SIP obligations.</p> <p>(2004b) Emerging and voluntary measures must also be surplus to adopted State air quality programs, including judicial settlements with sources and federal air quality requirements.</p> <p>(2012) The State must be able to document there is no double counting of emissions, and that the ERs are not used for other Clean Air Act requirements.</p> |                                | <p>The exception to this is when states share a multi-state plan.</p> <p>Preamble, 64,850: EE programs may be used to comply with the CPP and a state EE standard. But an EE program may not be used to comply with the CPP and other Clean Air Act programs.</p> <p><i>Rate-Based MR, § 62.16420(c)(2)(iv):</i> EPA proposes that an EE ERC may be used for compliance if it was “surrendered and retired only once for purposes of compliance with this regulation.”</p> <p><i>Mass-Based MR, § 62.16260(c)(7), .16455(c)(7):</i> EPA proposes that energy savings must be quantified as the savings observed above and beyond a “common practice baseline.”</p> |

**How does the program ensure it is taking credit only for in-State reductions?**

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| <p>(2001) States can enter into MOUs to assure enforceability of interstate trades and agree to monitoring protocols.</p> <p>(2007, 2012I) EPA encourages regional cooperation, as “a technically valid solution that attributes the ERs . . . in an equitable manner between States, and also ensures that double counting of ERs does not occur.”</p> <p>(2012J) A State should determine if there has been significant movement of energy across State lines, considering total generation, import/export percentages, ISO reporting, and/or long-term power purchase agreements. A State also needs to determine if interstate transfers follow a daily or seasonal load pattern. The State must make adjustments to account for these transfers.</p> <p>(2004a) EPA suggests reliance on models such as IPM and PROSYM.</p> | <p>The TX and WDC plans did not apply a discount for possible out-of-state ERs.</p> | <p>Preamble, 64,906 n. 988: The verification process for ERCs “includes confirmation that quantified MWh are non-duplicative and permanent (i.e., are not being used in any other state plan to demonstrate compliance with an emission standard or state measure).”</p> <p>§ 60.5790(c)(3): An ERC may not be used to comply with a state measure in one state and an EGU emission standard in another state.</p> <p>Preamble, 64,907: Tracking systems must ensure ERCs “are only used once to meet a regulatory obligation.”</p> <p><i>Rate-Based MR, § 62.16420(c)(2)(i):</i> EPA proposes that an EE ERC should have a unique serial number to be used for compliance.</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Past EPA Guidance                                                                                                                                                                                                                                                                                                                                                        | Approved State Programs                                                                                                                                                                                                                                                                                                                                                                             | Clean Power Plan                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>Permanent</i></b>                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                               |
| <b>How long must energy savings or emission reductions persist to count towards compliance?</b>                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                               |
| <p>(2004a) The measure must exist throughout the term for which the credit is granted. EPA noted that sometimes, “the amount of emission reductions provided for EE measures may change over time, but still be permanent.” For instance, as new emission standards for EGUs are implemented, emission rates will decrease and so will EE’s impact.</p>                  | <p>EPA’s approval of the TX plan noted that the ERs were permanent because the EE building codes “have been implemented in residential construction, which has a lifetime beyond the term for which the credit is granted.”</p> <p>In the LA SIP, the ERs were considered permanent because they were guaranteed in a performance contract with terms that extended beyond the compliance date.</p> | <p>§ 60.5775(e), 40 C.F.R. § 60.5780(a)(4): A standard or state measure must be “permanent” meaning that it exists for the duration of the compliance period (unless replaced or no longer needed for compliance).</p>                                                                                                                        |
| <b>Is a State required to have adequate authority and funding for the program for the compliance period?</b>                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                               |
| <p>CAA Section 110(a)(2)(E): SIPs must contain “necessary assurances that the State ... will have adequate personnel, funding, and authority” to implement the plan.</p> <p>NOTE: Section 111(d) references Section 110.</p> <p>(2012) The State must be able to provide evidence that regulation or legislation is in effect throughout attainment planning period.</p> |                                                                                                                                                                                                                                                                                                                                                                                                     | <p><b>NOTE: There is no affirmative requirement to fund an EE program through a compliance period.</b> However --</p> <p>State Plan Demonstrations TSD, 11: For plans that must include emissions projections to demonstrate they will achieve compliance, EPA notes states may need to discount programs that include cost or rate caps.</p> |

## REFERENCES

- (1987) = “Review of SIPs and Revision for Enforceability and Legal Sufficiency,” Sept. 23, 1987 Memorandum from J. Craig Potter, EPA Assistant Administrator for Air and Radiation, Thomas L. Adams, Jr., EPA Assistant Administrator for Enforcement and Compliance Monitoring, and Francis S. Blake, EPA General Counsel, *available at* <http://envinfo.com/caain/enforcement/caad137.html>.
- (1995) = “Guidance on Enforceability Requirements for Limiting Potential to Emit through SIP and § 112 Rules and General Permits,” Jan. 25, 1995 Memorandum from Kathie A. Stein, Director, Air Enforcement, to Regional Directors of Air Enforcement, *available at* <http://www.epa.gov/region7/air/nsr/nsrmemos/potoem.pdf>.
- (2001) = “Improving Air Quality with Economic Incentive Programs,” EPA-452/R-01-001 (Jan. 2001), *available at* <http://www.epa.gov/airquality/advance/pdfs/eipfin.pdf>. NOTE: EPA used the term “Economic Incentive Programs” broadly here, to cover a range of flexible, market-based compliance mechanisms including emissions trading.
- (2004a) = USEPA, *Guidance on SIP Credits for Emission Reductions from Energy Efficiency and Renewable Energy Measures* (Aug. 5, 2004), *available at* [http://www.epa.gov/ttn/caaa/t1/memoranda/erescerem\\_gd.pdf](http://www.epa.gov/ttn/caaa/t1/memoranda/erescerem_gd.pdf).
- (2004b) = USEPA, *Incorporating Voluntary and Emerging Measures* (September 2004), *available at* [http://www.epa.gov/ttn/caaa/t1/memoranda/evm\\_ievm\\_g.pdf](http://www.epa.gov/ttn/caaa/t1/memoranda/evm_ievm_g.pdf).
- (2005) = USEPA, *Incorporating Bundled Measures in a SIP* (Aug. 2005), *available at* <http://www.epa.gov/ttn/caaa/t1/memoranda/10885guideibminsip.pdf>.
- (2007) = USEPA, *Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM 2.5, and Regional Haze*, EPA-454/B-07-002 (Apr. 2007), *available at* <http://www.epa.gov/scram001/guidance/guide/final-03-pm-rh-guidance.pdf>.
- (2012) = USEPA, *Roadmap for Incorporating EE/RE Policies and Programs into State and Tribal Implementation Plans*, EPA-456/D-12-001a (July 2012), *available at* <http://epa.gov/airquality/eere/manual.html>. (Capital Letters after 2012 denote relevant Appendix.)

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<sup>i</sup> States must ensure EPA of EGU compliance if the plans apply different “custom” rates on EGUs; apply mass-based limits on EGUs that exceed EPA’s caps; or, include state measures. 40 C.F.R. § 60.5745(a)(5)(ii), (iv), (6).

<sup>ii</sup> Part 78 is used in the Acid Rain Program. 40 C.F.R. § 78.1(b) (*proposed*) would submit the following federal plan disputes through this process: correction of an error in an allowance or ERC account; adjustment of information in a submissions and the subsequent decision on the deduction and transfer of allowances or ERCs; decisions on ERC issuance, adjustment, and revocation; decisions on eligibility of a resource to receive ERCs; and correction of errors and suspension from ERC issuance.