



November 5, 2014

The Honorable Regina A. McCarthy, Administrator
U.S. Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Avenue, N.W.
Mail Code 1101A
Washington, D.C. 20460

RE: Comments in Docket ID No. EPA-HQ-OAR-2013-0602

Dear Administrator McCarthy:

The Harvard Environmental Policy Initiative is pleased to submit the attached comments about end-use energy efficiency (EE). In the Clean Power Plan, the Agency proposes to credit EE programs for demonstrating compliance with a State's goal. The proposal provides States with flexibility to include any program in their plans, so long as the resulting emission reductions are quantifiable, enforceable, permanent, and non-duplicative. The proposed approach strikes an appropriate balance between pragmatism and environmental integrity.

We support consideration of EE programs both as a basis for setting the stringency of the power plant emission guidelines and as a compliance tool. EE programs complement other power sector carbon-reduction strategies, bringing compliance costs down and supporting grid reliability by reducing demand.

Our comments are offered in the form of a detailed "EE Evaluation Tool." Ultimately, States and stakeholders will be able to use the Evaluation Tool to evaluate EE programs for possible inclusion in a 111(d) plan. At this stage, the Evaluation Tool is styled as a working document. It places components of the proposed Clean Power Plan in the context of related EPA guidance and actions on EE emission reduction credits. We believe this document can assist EPA as it finalizes the Clean Power Plan, because it highlights where additional guidance from the Agency would clarify remaining ambiguities.

The EE Evaluation Tool builds on earlier work that Harvard's Environmental Policy Initiative has done on EE crediting under the Clean Air Act. In March, we published a paper that argued that EE should be included as part of the power sector's "best system of emission reduction" and that the Agency could rely on its long-standing emission reductions crediting guidance to

inform EE eligibility in State 111(d) plans. The June Clean Power Plan proposal cited to our paper.

The EE Evaluation Tool is rooted in the Agency's past guidance and like the June proposal, is organized around the four basic requirements for emission reduction credits: quantifiable, enforceable, permanent, and non-duplicative. Within each requirement, the Evaluation Tool contains a series of questions to guide the evaluation of EE programs. The questions are:

Quantification Questions:

1. Does a State bundle small/short-term/emerging EE programs?
2. How does the program calculate energy savings?
3. How does the program convert energy savings to emission reductions?
4. How does the program validate results?
5. Who validates program results?
6. How often are progress and program results reported?
7. What *assumptions* are made in the energy savings and emission reduction calculations?
8. Does a State treat "emerging" program measurements differently?

Enforceable Questions:

9. Who is responsible for the emission reductions or other program outcomes?
10. Does the State have authority to assess penalties or seek relief if program terms are violated?
11. Does the State commit to make up shortfalls and if so, how should it do this?
12. Can private citizens enforce provisions of the program?
13. Is the program "practicably enforceable?"

Surplus/Non-Duplicative Questions:

14. Is the EE program mandated by or already used to comply with Federal law?
15. How does the program ensure it is taking credit only for in-State emission reductions (or otherwise fairly allocate emission reductions across states)?
16. Are the EE program energy savings included in the EIA's Annual Energy Outlook Reference Case?

Permanent Questions:

17. How long do energy savings or emission reductions persist?
18. Does a State have adequate authority and funding for the program for the compliance period?

Answers to each question are separated into three columns. The left column cites past EPA guidance on emission crediting generally and specifically EE crediting. The middle column summarizes relevant aspects of EE programs contained in approved State Implementation Plans for achieving ambient air quality standards. The right column includes relevant excerpts from

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Cover Letter for Clean Power Plan comments

the Clean Power Plan, suggestions for the Agency to clarify certain issues, and suggestions for States to provide the Agency with additional information.

We appreciate your consideration of the EE Evaluation Tool and look forward to working with you to craft a flexible but well-lit pathway to compliance through EE programs.

Respectfully Submitted,



Kate Konschnik, Director



Ari Peskoe, Energy Law Fellow



EPA Guidance on EE Programs for State Implementation Plans and in its 111(d) Proposal

In the Clean Power Plan, EPA proposes end-use energy efficiency (EE) programs as part of a “system” of reducing CO₂ emissions from existing power plants. To demonstrate compliance, States will submit plans that could include EE programs. For thirty years, EPA and States have been designing Clean Air Act-compliant approaches for valuing and crediting emission reductions, including reductions resulting from off-source actions. EPA has consistently required that Clean Air Act-compliant emission reductions be quantifiable, enforceable, permanent, and surplus. Likewise, States have analyzed potential emissions reductions using these factors across a number of air quality programs. In fact, these factors are codified in many State laws and regulations.

Since 2004, EPA has issued guidance applying these four factors specifically to EE and renewable energy programs. In the Clean Power Plan, EPA invokes these same factors, but replaces surplus with non-duplicative. Given their long history and explicit use in the Clean Power Plan, we used these factors to organize questions about EE programs that are relevant to their inclusion in a State’s 111(d) plan.

This Energy Efficiency Evaluation Tool is intended to help States and stakeholders evaluate whether an EE program is consistent with EPA’s past guidance and the proposed Clean Power Plan and therefore might be included in a 111(d) plan. The Energy Efficiency Evaluation Tool summarizes past EPA guidance (left column), describes EE programs that EPA has approved in State Implementation Plans (middle column), and includes comparable excerpts from the proposed Clean Power Plan (right column). The right column also includes (1) questions to EPA, highlighting where additional guidance in the final rule would be helpful, and (2) suggestions for State and stakeholder input during the comment period, in particular to explain how existing State programs can meet EPA’s quantifiable, enforceable, permanent, and non-duplicative framework. We plan to update the Energy Efficiency Evaluation Tool once the Clean Power Plan is finalized.

Key: **Q = Questions to Pose to EPA in Comments**; **I = EPA is looking for Information**; (YEAR) = Source document. See References section.

Energy Efficiency Evaluation Tool

Quantifiable

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

<u>Past EPA Guidance</u>	<u>Approved State Programs</u>	<u>111(d) Proposal</u>
<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 also approved a Connecticut SIP that included a bundle of EE measures (commercial, industrial, and residential lighting and cooling) that would reduce peak load on High Electricity Demand Days.</p>	<p>EPA does not mention bundled programs.</p> <p>Q: Will bundling be permitted? If yes, what types of programs are appropriate for bundling?</p> <p>Q: Is bundling a way to incorporate programs of short duration (i.e., customer behavior/O-Power type of programs), so long as energy savings in the aggregate are permanent?</p> <p>EPA does not mention capping or discounting any types or groupings of EE programs.</p> <p>Q: Will EPA apply a cap or a discount factor on a bundle of EE programs?</p>

How does the program calculate energy savings?

	<p>EPA approved a Texas (TX) plan to quantify energy savings from new building codes by:</p> <ol style="list-style-type: none"> 1) Calculating electricity savings and peak demand reductions from single and multi-family housing implementing the updated code, as compared to 1999 housing characteristics, using DOE-2 and weather data. 2) Cross-checking calculated energy use with a. DOE’s Residential Energy Characteristics Survey; and b. a utility bill analysis method (PRISM). 3) Crosschecking construction data with site visits. <p>EPA also approved a Louisiana (LA) SIP</p>	<p>(State Plan TSD, 52) EPA is considering whether EE savings should be reported on a net or gross basis to promote national consistency, or to allow both.</p> <p>I: Is consistency or flexibility more important on this issue?</p> <p>(State Plan TSD, 39-41) Twenty States use deemed savings factors compiled in Technical Reference Manuals. Variation in quality of factors in these databases make EPA question whether “complete reliance” on them is</p>
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<u>Past EPA Guidance</u>	<u>Approved State Programs</u>	<u>111(d) Proposal</u>
	<p>relying on ERs from an ESCO contract between Shreveport and Johnson Controls. Johnson Controls guaranteed an amount of energy savings; the State relied on that guarantee.</p> <p>The approved WDC plan relied on EPA Energy Star protocols to calculate energy savings from more efficient traffic lighting.</p> <p>The approved CT plan appears to rely on past performance (data from two prior years) to predict future energy savings.</p>	<p>“prudent and appropriate.”</p> <p>Q: Will EPA list default energy savings tools (i.e., Energy Star, deemed energy savings databases) that would be approvable? Would EPA approve additional tools or methods on a case-by-case basis?</p>

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

<p>(2001) ERs are quantifiable if you can reliably replicate measures to determine them.</p> <p>(2001) Continuous emission monitoring systems are EPA’s preferred approach.</p> <p>(2012I) Acceptable ER quantification methods include two “basic” approaches: 1) eGRID non-baseload average emission rates or 2) Emission rates weighted by capacity factors; 3) An “intermediate” approach using historical hourly generation and emission rates of dispatched plants and 4) “Sophisticated” modeling. 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>(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 (this is relevant for interstate crediting, too, see page 12).</p> <p>(2004a) “[T]here can be considerable uncertainty as to where the reduced demand</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 report reviewing three quantification methods using eGRID data: 1) A simple “plant average approach” that assumes all generation reductions are shared equally among all plants in a region; 2) A “power control area approach” similar to the TX approach described above; and 3) An economic dispatch model. One run determines BAU dispatch, and a second run determines dispatch after applying the expected energy savings. The difference between the two model runs provides plant-specific generation displacement, which was multiplied by plant-specific emission factors to calculate the ERs. All three methods are similar to the four</p>	<p>(State Plan TSD, 22-30) EPA suggests an emission rate “could be based on the average or marginal emission rate in the power pool, region, or State” (average assumes generation reductions are evenly divided among all EGUs; marginal focuses on units likely to be displaced by EE). Marginal rates may require complex modeling or States could rely on historic hourly generation and emission data collected by CAMD, or from AVERT. (The average rate is similar to the most basic approach noted in the Roadmap and used by Louisiana; the marginal rate could approximate the Roadmap’s other three approaches depending on the data used.) EPA notes a third suggestion – basing an emission rate on each State’s 2030 “target rate.”</p> <p>Q: Are all four Roadmap approaches to ER calculations acceptable in all instances? Will some programs require a different (perhaps more robust) calculation?</p> <p>Q: Proposal is silent on whether energy savings from all EE programs in a State should be summed and then converted to ERs or whether each type of program should separately convert</p>
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<u>Past EPA Guidance</u>	<u>Approved State Programs</u>	<u>111(d) Proposal</u>
<p>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>approaches discussed by EPA (2012I). NREL determined the simplest approach was “precise and 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 certain smaller EGUs used on High Electricity Demand Days, because they do not report CEMS to the acid rain program or produce generation records.</p>	<p>to ERs. Would either approach work?</p> <p>EPA and others have noted AVERT limitations, including that the model calculates regional rather than State rates.</p> <p>Q: Must all States in a particular AVERT region agree to use AVERT?</p> <p>(State Plan TSD, 24) EPA notes that determining “which electric generators will be displaced . . . in the presence of incremental EE” remains the “primary question.”</p> <p>(State Plan TSD, 51) EPA suggests it may be useful to use time-differentiated (i.e., hourly, seasonal) energy savings data. EPA’s intermediate and advanced approaches in the Roadmap are compatible with time-differentiated savings.</p> <p>Q: Are there types of plans or EE programs that require time-differentiated calculations?</p> <p>I: Does your State prefer any of the ER calculation methods? What experience do you have using any of these methods? NOTE: EPA did not formally propose basing emission rates on a State’s 2030 target rate so if your State is interested in using this approach, it may be especially important to document your reasons in comments.</p>
<p>How does the program validate results (i.e., monitoring, calculations)?</p>		
<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</p>	<p>Under the TX program, Texas A&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>(State Plan TSD, 57) EPA may issue EM&V guidance to identify and establish minimum criteria for EM&V rigor, accuracy, reliability, and quality control.</p> <p>(State Plan TSD, 59) Energy savings documentation should be detailed enough to</p>

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<p>remedy any shortfalls . . . in a timely manner.”</p> <p>(2001) (2004b) The SIP submission must contain evidence that the State “has sufficient 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>enable recalculation.</p> <p>(State Plan TSD, 78) EPA is considering whether documentation and timeframes currently required by PUCs are sufficient.</p> <p>Q: What are the characteristics of PUC-administered programs that EPA believes makes these programs reliable? For example, which PUC documentation rules or M&V processes are sufficient? Can programs not administered by a PUC emulate these characteristics?</p> <p>I: What types of non-PUC or voluntary programs operate in your State? Provide details about the EM&V of these EE programs (i.e., programs run by cooperative or municipal utilities, ESCO contracts with government entities).</p> <p>(Preamble) EPA proposes that State plans with EE include an EM&V plan. The plan should specify the methods, assumptions, and data the State will employ to determine energy savings from EE. The EM&V plan will be subject to EPA approval.</p> <p>Q: Must the State demonstrate adequate funding for program oversight and evaluation, and if so, through what year? What constitutes adequate?</p>
Who validates program results?		
	<p>By statute, TX directs Texas A&M Energy Systems Lab to prepare an annual report.</p> <p>Eleven counties in Maryland and Virginia, the Maryland DOT, the Maryland National Capital Parks and Planning Commission, the Virginia DEQ, and the Washington Suburban Sanitary Commission commit to monitor and validate</p>	<p>(State Plan TSD, 56) EPA may prescribe who can conduct EM&V activities and prepare energy savings documentation. Qualifications may include a demonstration of independence from those implementing or administering EE programs and measures and required minimum levels of training, experience, or certification.</p>

<u>Past EPA Guidance</u>	<u>Approved State Programs</u>	<u>111(d) Proposal</u>
	results in the WDC SIP.	(State Plan TSD, 78) EPA queries whether State agencies overseeing EE programs should have to certify reported EE savings. Certification might state that the values are appropriate, conservative, and meet State approval. Q: Will EPA require an enforceable commitment by State agencies to certify ERs?
How often are progress and program results reported?		
(2001) States must commit to conduct a program evaluation (with public reporting) every 3 years. (2004b) State must commit to evaluating emerging measures within the first 18 months, and then on the same cycle as other measures. (2007) EPA suggests that Mid-Course Reviews (MCR) or other periodic tracking “may be desirable” to ensure progress and compliance.	The LA plan subjected the ESCO projects and other measures to a semi-annual reporting requirement, to confirm progress and compliance.	(Proposed Rule 40 CFR 60.5815) States must submit annual reports starting in 2021. I: What reporting timelines do you use in State EE programs? What suggestions might you have for EPA on the start date for reporting, or frequency of reporting?
What assumptions are made in the energy savings and ERs calculations?		
(2001) State plans must describe how States plan to quantify ERs when data monitoring does not occur, or data is missing or inaccurate. (2004a) Line losses mean that when energy demand is reduced by 1 kwh, > 1 kwh is displaced. This is not normally factored in. (2012J) EPA calculates cumulative savings over the lifetime of a State measure based on the first year of performance (no “decay of savings” assumed). (2012J) EPA assumes full compliance of an EERS each year, unless the EERS is voluntary, or is capped by cost/rate under law.	TX assumed that no power is imported into or exported out of ERCOT (a safer assumption in TX than in other States); that EGUs serving each power control area in 1998 would serve the same areas in 2007 (unless the State knew an EGU would retire); and that there are no transmission constraints. The WDC plan assumed that EE projects in the metropolitan region of DC-MD-VA, would displace fossil-fueled generators in the PJM service territory that have average capacity factors below full capacity and are large enough to have CEMS.	(State Plan TSD, 51) EPA wonders whether to require States to account for avoided T&D losses, and how to do so consistently across States. Q: Should States account for line losses? I: How do your State programs account for line losses? The proposal is silent on decay of savings for compliance purposes. Q: How should States measure decay of savings and account for measure life? I: How do your State programs account for decay of savings and measure life? The proposal is silent on whether EPA will

<u>Past EPA Guidance</u>	<u>Approved State Programs</u>	<u>111(d) Proposal</u>
		<p>approve projections of energy savings based on voluntary EERS, other voluntary EE programs.</p> <p>Q: Would EPA consider energy savings from voluntary programs, if some entity (perhaps the State) commits to EPA to achieve a level of savings from the voluntary program?</p> <p>I: What types of voluntary EE programs run in your State? Do these programs reach entities not covered by PUC programs?</p>
Does a State treat “emerging” program measurement differently?		
<p>(2001) States may need to conduct an uncertainty analysis, particularly if a program “involves a large amount of emissions.” Based on the findings, States may need to “adjust” projections (apply a discount?) or exclude really uncertain projects.</p> <p>(2004b) EPA will give some leeway on quantification. States will still need to quantify ERs based on “best knowledge currently available” based on modeling, “extrapolated experience for similar types of projects,” or other reasonable methods.</p> <p>(2004b) A discount factor (presumed at 20%) may apply.</p> <p>(2004b) EPA may designate ERs as provisional and require the State to replace under-performing measures (“reconcile” the plan).</p> <p>(2004b) States must evaluate the measure within 18 months, and then on the same cycle as other measures.</p> <p>(2004b) States must monitor, evaluate, and report at least every 3 years to the public and EPA on emission outcomes, and remedy any</p>		<p>(State Plan TSD, 54, 58) EPA might require a higher level of EM&V effort for less well-understood or more complex EE programs and measures, such as behavior programs and market transformation programs.</p> <p>(State Plan TSD, 50) EPA might streamline review of EM&V plans for a pre-defined list of program types where evaluation is straightforward and energy savings are fairly certain. Programs and measures with less well developed EM&V approaches would require greater EM&V documentation.</p> <p>Q: Will EPA apply caps or discount factors to emerging programs?</p> <p>I: What types of “emerging” programs operate in your State (EPA seemed to include building code updates, appliance standards, behavior modification, and market transformation programs), and how do these programs handle EM&V?</p>

<u>Past EPA Guidance</u>	<u>Approved State Programs</u>	<u>111(d) Proposal</u>
<p>short fall in a timely manner.</p> <p>(2004b) For a SIP, EPA would cap emerging programs at 6% of a State’s obligation.</p> <p>(2012G) EPA may approve measures above 6% “where a clear and convincing justification is made by the State . . . as to why a higher limit should apply.”</p>		
<i>Enforceable</i>		
Who is responsible for the ERs or other program outcomes?		
<p>(2001) Sources will generally be liable under an economic incentive program (market-based mechanism), 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 directly 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 an individual EGU; 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 as amended by 2009 International Energy Conservation Code says “inspections shall be made to determine compliance with this code” including inspections of insulation, windows, and HVAC systems. Moreover, 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 Department of Transportation, the Maryland National Capital Parks and Planning Commission, the Virginia Department of Environmental Quality, and the Washington Suburban Sanitary Commission commit to deliver the expected reductions from a bundle of voluntary measures.</p>	<p>(Preamble) EPA is proposing two approaches for enforcement: an EGU-only plan, where EGUs are responsible for meeting the entire performance standard; and a portfolio approach, where EGUs, other parties, and the State may take responsibility for different measures, and all entities can be liable under the CAA.</p> <p>EPA is also seeking comment on a “State commitment” approach, where the State assumes CAA liability for certain measures (in place of non-EGU entities).</p> <p>Q: Will EPA choose between the portfolio approach and the State commitment approach?</p> <p>I: Explain whether your State prefers the portfolio approach or the State commitment approach, detailing the reasons why. NOTE: EPA did not formally propose the State commitment approach so if your State is interested in this type of plan, it may be especially important to document your reasons in comments.</p> <p>(State Plan TSD) An entity not subject to State oversight could voluntarily submit to State</p>

Past EPA Guidance	Approved State Programs	111(d) Proposal
		<p>authority in a plan, in exchange for funding or more lenient emissions limits (for a municipal or cooperative utility, for instance).</p> <p>Q: Could a State commit to achieving energy savings or ERs from a voluntary program that reaches entities otherwise exempt from PUC programs, such as municipal and cooperative utilities, government entities with ESCO contracts, or industrial consumers who have opted out of PUC-administered programs?</p> <p>I: What types of voluntary or incentive-based programs operate in your State? Describe how you track results.</p> <p>Q: Will the EM&V plan be “an enforceable commitment to monitor, assess, and report” on ERs? Will that always be enforceable against the State, under any type of plan?</p>

Does the State have authority to assess penalties or seek relief if program terms are violated?

<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. Once put in a CAA plan, EPA can assess penalties or seek relief, too.</p>	<p>Under the TX program, the State delegated enforcement authority to municipalities and counties. (See Fort Worth code as amended by the 2009 International Energy Conservation Code.)</p>	<p>(Preamble) The State must have authority to implement and enforce the plan.</p> <p>(Preamble) If a State holds EGUs or other parties directly responsible for actions or ERs in the plan, upon approval EPA could enforce against them, too. Under the “State commitment” approach, EPA could only enforce against EGUs and the State.</p> <p>Q: Could a State commit to running a voluntary or incentive-based program that does not penalize participants or non-participants to achieve a certain level of ERs?</p> <p>Q: Will EPA require State penalties to be set at a certain level, in order to approve a State commitment plan?</p>
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Past EPA Guidance	Approved State Programs	111(d) Proposal
Does the State commit to make up ER shortfalls, and if so, how?		
<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, rather than from each project.</p>	<p>TX’s implementing legislation directed the Natural Resources Conservation Commission to develop protocols and prepare progress reports, and authorized the Commission to take necessary steps to keep TX in compliance with the Clean Air Act.</p> <p>In the WDC SIP, counties and specific agencies in the District, Maryland, and Virginia commit to remedy the deficiency within one year (or within two years if rulemaking is required) if a three year true-up shows that emissions benefits are lower than expected.</p>	<p>(Preamble) EPA proposes to evaluate and approve State plans based on four general criteria, including that the State has a process for biennial reporting and implementing corrective actions.</p> <p>(Preamble) EPA proposes that each State plan include automatic fallback plans (be “self-correcting”), or identify corrective measures to employ if milestones are not met.</p> <p>(Preamble) EPA may include a process similar to a SIP call. Under the process, EPA would require States to cure a deficiency by submitting an updated plan within a specified time period.</p> <p>Q: Must all corrective measures be identified for approval?</p> <p>Q: Will EPA clarify the longest time frame it would approve for curing a deficiency?</p> <p>Q: What might trigger a SIP call procedure?</p>
Can private citizens enforce provisions of the program?		
<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>(2004b) Citizen suits not warranted for “voluntary” programs where State has assumed liability.</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>(Preamble) EPA generally states that once a plan is federally enforceable, the State, EPA or citizens can enforce elements. Otherwise, there is no discussion of citizen suits.</p> <p>Q: Will citizen suits be authorized for portfolio approach? For State commitment approach? (Note: 2004 guidance says citizens may not sue for “voluntary” programs; is State commitment analogous to voluntary?)</p> <p>Q: Can citizens sue EGUs for the entire performance standard, if the plan unravels?</p>

Past EPA Guidance	Approved State Programs	111(d) Proposal
Is the program “practicably enforceable,” and what does that mean?		
<p>(2001) ERs must be practicably enforceable.</p> <p>(2004a) If measures are enforceable against the EGU or another party responsible for EE, the program must be practicably enforceable.</p> <p>(1995) EPA defines “practicably enforceable” as a requirement that specifies (1) a technically accurate limitation (or requirement), (2) a time period for the limitation, (3) a method to determine compliance, (4) the sources covered by the rule, and (5) consequences for failing to meet the requirement.</p> <p>(1987) EPA defines enforceable as a requirement that (1) is clear as to who must comply and by what date; (2) the effect, if any, of changed conditions; (3) the period over which compliance is determined; (4) identify exemptions and describe how to determine if a source is exempt; and (5) provisions which allow for “alternative equivalent techniques” or any variation on compliance must be completely and explicitly defined.</p>	<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 as amended by the 2009 International Energy Conservation Code.)</p>	<p>(Preamble) EPA proposes that each plan demonstrate that the performance standards are practicably enforceable.</p> <p>(State Plan TSD) To ensure a plan is enforceable, a State must 1) identify responsible entities, 2) specify how entities demonstrate compliance, and 3) provide a mechanism for legal action if an entity is not in compliance.</p> <p>Q: Must all State programs be enforceable under State law? Or is this not required under State commitment approach?</p> <p>Q: Must the immediate consequences for not delivering the specified number of ERs be CAA penalties? Or could a State plan build in a grace period for making up the required ERs?</p>
<i>Surplus</i>		
Is the program mandated by or already used to comply with Federal law?		
<p>(2001) ERs may not be otherwise relied on in air-quality related programs or achieved under the terms of a consent decree.</p> <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</p>	<p>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.</p> <p>To satisfy a three percent contingency requirement set by EPA guidance, the WDC SIP included a three percent reduction due to implementation of the Clean Air Interstate Rule</p>	<p>(Preamble) EPA never uses the word “surplus” in the proposal. The only double-counting EPA appears concerned about in this rule is the possibility of two States taking credit for energy savings or ERs from the same EE or RE program (a concept it terms “non-duplicative”).</p> <p>Q: Is there a requirement that ERs be surplus?</p>

<u>Past EPA Guidance</u>	<u>Approved State Programs</u>	<u>111(d) Proposal</u>
<p>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>(CAIR) and Portable Fuel Container Rule.</p>	<p>Q: Does “non-duplicative” mean that energy savings or ERs are counted by only one State?</p> <p>Q: Can Federal Standards, such as appliance standards set by DOE, be included in a State plan? Or may implementation of a Federal standard be included only as a corrective measure?</p>
<p>How does the program ensure it is taking credit only for in-State reductions (or otherwise fairly allocate emission reductions across states)?</p>		
<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 modeling and cooperation. The “ideal” regional arrangement “will yield 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 and import/export percentages, ISO annual reporting, and/or long-term power purchase agreements. A State also needs to determine if interstate transfers follow a daily or seasonal load pattern, or are consistent year-round. The State must make adjustments to account for these transfers.</p> <p>(2004a) EPA suggests reliance on models such as IPM and PROSYM to determine which EGUs are impacted. However, “you do not necessarily need to run a dispatch model in order to estimate the locations of ERs expected from a measure.”</p>	<p>The TX and WDC plans did not apply a discount for possible out-of-state ERs (see “assumptions,” page 6).</p>	<p>As in earlier guidance, EPA suggests a regional approach may ease interstate accounting issues.</p> <p><i>Multi-State Plan Options:</i> (State Plan TSD, 87) States participating in multi-State plans can:</p> <ul style="list-style-type: none"> • distribute ERs among States in the multi-State area OR • jointly demonstrate CO2 emission performance by affected EGUs through a multi-State plan in a contiguous electric grid region. Attribution among States of ERs from demand-side EE would not be necessary. <p><i>Individual State Plan Options:</i> (State Plan TSD, 88)</p> <ul style="list-style-type: none"> • States can estimate in-state avoided emissions through modeling, other analytical tools, or proxy metrics (e.g., net import factor) OR • the State that implements the measure claims the avoided CO₂ emissions, regardless of where they occur OR • multiple States can agree on how to distribute avoided CO₂ emissions from State plan measures OR • States can create credit markets OR

<u>Past EPA Guidance</u>	<u>Approved State Programs</u>	<u>111(d) Proposal</u>
		<ul style="list-style-type: none"> EPA could assess interstate effects for each region during the plan review process. <p>Q: Is each option equally likely to be approved by EPA? Will all States in a region need to agree on a single approach?</p> <p>I: Does your State prefer one of these options? Are there options that concern you?</p>
Are the program energy savings included in EIA’s Annual Energy Outlook Reference Case?		
(2012J) States should calculate how much of their EERS and other EE programs are embedded in the AEO Reference Case, and only seek SIP credit for incremental advances beyond those embedded energy savings.		<p>Q: For goal-setting purposes, did EPA include embedded energy savings in the 1.5% annual target? Or do the State goals include 1.5% + EE savings embedded in the Reference Case?</p> <p>Q: Can States rely on energy savings embedded in the reference case for compliance?</p>
<i>Permanent</i>		
How long do energy savings or emission reductions persist?		
(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>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>The LA SIP submittal argued that the ERs were permanent because they were guaranteed in a performance contract with terms that extended beyond the compliance date. EPA agreed that the ERs were permanent.</p>	<p>(Preamble) EPA proposes that each measure in the plan must be permanent.</p> <p>(Preamble) EPA defines “permanent” as maintenance of the 2030 target “in the years after 2030.” Later, and in the proposed rule (40 CFR § 60.5780(e)), it defines “permanent” as meaning “the standard must be met for each applicable compliance year or period” unless replaced or no longer needed for compliance.</p> <p>Q: Must EE programs persist beyond 2030?</p> <p>EPA notes the interim target must be met on an annual average over the years 2020–2029.</p> <p>Q: Would EE used to meet the interim target</p>

Past EPA Guidance	Approved State Programs	111(d) Proposal
		have to persist for a year during the interim period, or for the full 10 year period?
Does a State have adequate authority and funding for the program for the compliance period?		
(2012) The State must be able to provide evidence that regulation or legislation is in effect throughout attainment planning period.		(State Plan TSD) EPA suggests States might have to demonstrate that they have funding mechanisms to support EE programs until 2030. Q: Can a State rely on a program that will require extension before 2030, to demonstrate likelihood of funding?

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, to cover a range of flexible, market-based compliance mechanisms. The document superseded previous guidance on emissions trading, open market trading, and voluntary economic incentive programs.

(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/ereseerem_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.

(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.)