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Arkansas Goal Calculation under Block 4 of the EPA Clean Air Act Section 111(d) Proposed Rule



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EPA includes EE within 4 “best practice” Building Blocks for CO₂ Reduction

- ▶ EPA says states can ramp up to savings of 1.5% of retail kwh sales per year.
- ▶ Based on:
 - Recent achievement by top 3 states
 - Requirements already in place in other states for future achievement of 1.5% and above
 - Review of recent EE potential studies
 - 30 years of utility EE programs, with body of EM&V practice to verify results

Review of Arkansas PSC EE

- ▶ Existing goals for EE savings by IOUs:

<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
0.25	0.50	0.75	0.75	0.90	study	study	study

- ▶ Robust EM&V meeting national best practices
- ▶ EE potential study is underway to see what level of future achievement is economic & feasible.

EPA bases size of goal on utility-funded EE programs.

But acknowledges:

- ▶ Building codes
- ▶ Benchmarking
- ▶ State appliance standards
- ▶ Behavioral programs

i.e., goal could have been higher, but by focusing only on utility programs, EPA says the goal methodology is conservative.

How EPA sets the EE portion of the state emissions goal:

- ▶ First, start with the actual level of EE savings reported in 2012 by Arkansas utilities to US EIA: 0.11% of total retail sales.
- ▶ In 2012, only the IOUs and N. Ark. Electric Cooperative reported EE savings to EIA.
- ▶ Comprehensive IOU EE programs met 0.50% goal in 2012. But without such comprehensive programs elsewhere, EE savings equaled only 0.11% of total statewide retail sales.

Arkansas EE assumption for goal-setting, Step 2:

- ▶ EPA applies the 2012 savings level to 2017.
- ▶ EPA assumes a state can ramp up from the 2017 level at 0.20% per year, until it reaches 1.50% annual savings.
- ▶ EPA says this is possible statewide (not just IOU):

<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
0.11	0.31	0.51	0.71	0.91	1.11	1.31	1.50	1.50	1.50

Cumulative
0.11 0.41 0.88 1.52 2.31 3.24 4.28 5.42 6.46 7.41

Early EE counts towards compliance

(pre-publication preamble at p. 333)

- ▶ Arkansas already exceeds EPA goals for first two years (2017–2018):

<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
0.49	*0.49	*0.49+	?	?	?

- ▶ AR already exceeding early targets without:
 - munis
 - reporting on most co-op programs
 - large industrial opt-outs
 - building codes or appliance standards

EPA crediting of EE for compliance

- ▶ Need not be an issue for mass-based state plans with emissions responsibility imposed solely on EGUs. (preamble at 385).
- ▶ But for mass or rate-based plan with adjusted emissions:
 - EM&V: federal guidance? Clarity vs. flexibility?
 - Numerator or denominator?
 - If numerator, must estimate emission effects:
 - Average impact? Marginal impact?
 - Some modeling approaches may require more detailed EE reporting/EM&V (i.e. hourly load shapes), particularly for existing, non-comprehensive programs.

Remember: Compliance does not have to follow the goal-setting formula

- ▶ EE is not even required.
- ▶ Building codes, appliance standards, and other non-utility-funded programs could count.
- ▶ EM&V is an issue for non-utility program EE.

Counterintuitive Results

(looking back on several presentations)

- ▶ Using 2013 baseline in order to capture first full year of Turk emissions yields higher required goal.
- ▶ Renewables: Substituting lower SE Regional goal (10%) instead of 20% goal yields higher required overall Arkansas goal because of the higher ramp rate.
- ▶ Recent modeling suggests higher EE goal allows more coal generation.